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THE
SOCIAL FRAMEWORK

An Introduction to Economics

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THE SOCIAL FRAMEWORK

AN INTRODUCTION TO ECONOMICS

BY

J. R. HICKS

Stanley Jevons Professor
of Political Economy in
the University of Manchester

OXFORD
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PREFACE

I HAVE written this book because I have come to hold a particular point of view about the right way to arrange economics for elementary study.

Until lately the problem of how to begin the study of economics reduced itself to a dilemma: either one might begin with economic theory—which meant in practice the theory of supply and demand—or one might begin with descriptive economics, the practical problems of industry and labour. Now there were serious objections against each course. To begin with the theory of value meant starting off with problems whose significance it is difficult for the beginner to realize, and on a field where generalizations which will stand up to criticism are singularly difficult to attain. Descriptive economics, on the other hand, taken without a sufficient grounding in theory, is inevitably either a dull collection of facts or, alternatively, a discussion of practical policies which may be lively enough, but which it is hard to raise much above the intellectual level of political propaganda. In practice, whichever of these solutions was adopted, some of these difficulties were incurred. The student who pursued a long course of study would of course find his way round them in the end, though not without some waste of time. But those people whose acquaintance with economics was confined to a one-year course (and they are a large proportion of all students of the subject) were either sent away thoroughly bored—if their teachers had followed the austerer path—or, in the other event, they were left with nothing but ready-made opinions on a few topical issues.

As a result of the developments in economic knowledge which have taken place during recent years, we are now (I believe) in a position to resolve this dilemma, and to do so by something better than a mere compromise between the existing alternatives. It is now possible to mark out a preliminary stage in economic study, which is wholly concerned with topics which are obviously interesting and important, and which is yet systematic enough to give some of the mental discipline necessary

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that the first idea of developing an approach to economics along these lines came to me when taking pupils who were attending the elementary lectures of Professor Pigou. Not having had the advantage of attending those lectures myself, I cannot say how far the further development of my ideas would meet with his approval. Nevertheless, I should like to thank him for planting the seed in my mind.

I have to thank Sir Hubert Henderson for finally resolving a prolonged indecision about the book's title.

My other obligations are mainly statistical. Being myself a very amateurish statistician, I should never have dared to venture as far as I have done on to this field, if it had not been for the advice and criticism which were constantly available to me, first from my wife and secondly from my colleague Dr. Singer. Finally, over two of the chapters which cost me the greatest difficulty to write (XIV and XVII), I had the great good fortune to get into contact with Mr. T. Barna, of the London School of Economics, who generously put at my disposal work of his own which gave much better answers to some of the questions I was asking than I could have provided myself. My acknowledgements to Mr. Barna are recorded in detail in those chapters, and in the Appendix.

J. R. H.

MANCHESTER,
May 1942

for study on a scientific level. At the same time this stage involves very little of that process of *abstraction* which is such a snare in the elementary stages of the theory of value. The ideas involved are simple and obviously sensible; the discipline is provided by the considerable demands which are made for care and patience in putting them together.

This change has come about because the chapters on definitions, which formed so indigestible a portion of the old textbooks, have been kindled into life by the work of economic statisticians, and also by some of the newer developments of economic theory. They have grown into a distinct branch of economics, a branch which is being pursued with very special success at the present time, and which is, nevertheless, particularly suited to serve as an introduction to the science in general. If we want a name for it, it might be described as Social Accounting, for it is nothing else but the accounting of the whole community or nation, just as Private Accounting is the accounting of the individual firm.

The greater part of this book is taken up with the study of Social Accounting; but in suggesting that this is probably the best way to begin the study of economics, I am not of course claiming that it can replace the conventional elementary theory and elementary applied economics. I would indeed claim that, in these days of shortened courses, a student who begins with Social Accounting will learn something useful and something worth learning, even if his studies are broken off at an early stage. But my main contention is that the other topics should come afterwards, after the groundwork of Social Accounting has been mastered. I hope and believe that when a beginner has mastered the substance of this book, he will be able to turn to the theory of value with some idea of what he wants to get from it; and that seems to be an essential preliminary to getting anything worth having.

Later on—but perhaps it will have to wait until quieter times—I plan myself to write an outline of the theory of value, in a form which would serve as a sequel to this book. And I should also like to write a further sequel, giving a similar elementary treatment of Money and Finance.

I have a number of acknowledgements to make. I believe

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INTRODUCTORY CHAPTER

ECONOMIC FACTS AND ECONOMIC THEORY

1. Economics—the subject which we are going to study in this book, and in the successors which will (I hope) one day follow it—is a science, one of the branches of that great systematic study of the world we live in which we call Science with a capital S. The division of Science into sciences—physics, chemistry, biology, physiology, and so on—is largely a matter of convenience; we group together in a science those particular special studies which are conveniently pursued together and pursued by the same people. This means that we cannot tell where the frontiers of a particular science will prove to be until we have developed that science; and we need not expect that these frontiers will always be found in the same place. Even between the two most highly developed of the natural sciences, physics and chemistry, the boundary is distinctly fluctuating. Chemistry deals with those aspects of the world which are conveniently studied by chemists; economics deals with those aspects which are conveniently studied by economists.

All the same, within the broad field of the sciences in general, economics belongs, without any doubt, to a particular subgroup; it belongs to the Human Sciences, the sciences which are concerned with human behaviour. There are other human sciences besides economics: there is psychology, and there is politics (the science of government); there is perhaps also sociology, a less definite science dealing with such things as religion and the family. All these touch on economics, so that the student of economics is well advised to maintain a certain interest in them; from his point of view politics is probably the most important—the dividing-line which separates it from economics is the hardest to draw. The close connexion between economics and politics is illustrated in the older name for economics—Political Economy.

Provisionally, we may say that the particular aspect of human behaviour which is dealt with by economics is the behaviour of human beings in business. Economics is the science which

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economics can therefore take us a considerable way towards a general understanding of human society, that is, of men's behaviour to one another.

2. The method of modern economic investigation is the same as the method of all science. Economics studies facts, and seeks to arrange the facts in such ways as make it possible to draw conclusions from them. As always, it is the arrangement which is the delicate operation. Facts, arranged in the right way, speak for themselves; unarranged, they are as dead as mutton. One of the main things we have to learn is how to arrange our facts properly.

Where does the economist get his facts from? It might be thought that, since the object of economics is to study human conduct in business affairs, the simplest way of proceeding would be to go to the people engaged in business affairs, and to ask them questions. But a moment's reflection will show that this is not as promising a line as it looks. Even if we are lucky, and the particular man we select is willing to tell us about the things which seem to him to be important (in practice even that is far from certain), he is unlikely to be able to tell us about other things, which may be more important from our point of view. If we ask him about something which he did six months ago, he is not very likely to be able to remember. Yet that may be just the question we want answered. It is very difficult to get systematic information in this sort of way.

An improvement upon the simple method of interviewing is the questionnaire. If a large number of people are asked the same set of questions, some will not reply, some will make guesses or answer at random, some will reply seriously. By looking over all the replies together, it may be possible to sort out the replies which are significant from those which are not. The method of questionnaires has in fact been most successful in those cases where it is possible to induce the people questioned to take some trouble over the answers; generally this means paying them to do so. Thus it is not surprising that the questionnaire has been chiefly employed for studying the problem of poverty; poor people can be induced to take this trouble for a very small fee; to give the same inducement to richer people

deals with business affairs. But if we allow ourselves to say this, then we must be clear that business is to be understood in a wide sense. When a housewife goes into a shop to buy some bacon, the resulting transaction is undoubtedly a business transaction from the point of view of the shopkeeper, and so would fall within our definition of the subject-matter of economics. We should not so naturally regard it as a business transaction from the housewife's point of view. But once economics has undertaken the study of this piece of behaviour, the transaction has to be looked at scientifically, that is to say, in the round; economics has to pay just as much attention to the housewife's side of the bargain as to the shopkeeper's. Buying the bacon is an economic question just as much as selling it.

To take some other examples. When men or women are paid wages to work in a factory, their employment is obviously a business question from the point of view of the employer. Consequently it comes into economics, but economics has to consider the worker's point of view as well as the employer's. The payment of taxes on profits is again obviously a business question; economics has to consider the payment of taxes in the round, looking at it from the standpoint of the firms and private people who pay the taxes, from that of the government which receives revenue from the taxes, and from that of the people whose wages and other incomes are paid by the government out of this revenue. Once we make these extensions—and they are absolutely necessary extensions—the subject-matter of economics loses most of the narrowness it might appear to have at first sight. The problems of profit-making business have been much more important at some periods of history than at others. But economic problems have always been of the utmost importance, and it is safe to predict that they always will be. Although there are wide stretches of human experience (the whole fields of art and religion, for example) on which economics has nothing, or nothing fundamental, to say, economic activities do occupy a large part of the life of nearly everyone, and are bound to do so. Economic science endeavours to study these activities scientifically; it has in fact made better progress in the application of scientific methods to the study of human conduct than has been made by the other human sciences. The study of

a statement that so many persons have been unemployed on a certain date, the precise figure which is given will depend upon the definition of unemployment used—whether people who have only been out of work for two or three days are counted as unemployed, and so on. It occasionally happens that the definition of *unemployed* is changed slightly; when this occurs, the figure given may change without there being any real change in unemployment. The definitions of unemployment which are used in the unemployment figures of different countries do in fact differ very considerably indeed; so that the international comparison of unemployment is a very ticklish matter. This sort of difficulty is one for which we have constantly to be on the watch.

3. The British Government collects and publishes material on all sorts of subjects; from the economic point of view the most useful parts of it are the series which give us economic information of a similar character for a number of different years, so that we can make comparisons.[1] Among the more important of such series are the following:

A. *The Census of Population.* A Census of Population was taken every ten years between 1801 and 1931 (1941 will be the first irregularity in the series). Modern censuses tell us not only the number of people living in the country at the date when the census was taken; we also get information about their ages, the sizes of the families in which they were living, where they were living and what work they were doing. This detailed information only becomes available once in ten years, but some parts of it can be estimated for the intervening years in indirect ways. Thus the total population can be estimated fairly exactly by using the registrations of births and deaths, figures of which are published quarterly.

B. *Imports and Exports.* Some information about goods imported into England, and goods exported from it, has been available since quite early times; a high standard of accuracy

[1] The most convenient place to find this information is the *Statistical Abstract of the United Kingdom*, published (in peace time) annually. This work is as essential to the British economist as the bottles of chemicals on his laboratory shelves are to the chemist.

would be impossibly expensive. A large part of what we know about poverty has been learned by the questionnaire method; the Social Surveys, which were begun with Charles Booth's *Life and Labour of the People of London* (1891–1903) and have been repeated more recently, both in London and in other areas of Great Britain, use the questionnaire to a considerable extent. But it is only on this particular side of economics that we get much useful information by direct inquiry of our own; over all the rest of the field such inquiry is only useful for the purpose of supplementing another source of information which is, on the whole, far more valuable.

This other source of information consists in facts which have been collected for other purposes than for use by economists, but which can be used by economists. Naturally, since these facts have been brought together for other purposes than ours, there are pages and pages in these collections which are, from our point of view, sheer rubbish. But it is a perfectly feasible (though laborious) task to separate out from the rubbish the information we want.

Large quantities of facts, potentially interesting to the economist, are collected nowadays by business organizations; but the most important collections are those made by governments. Modern governments collect stupendously large quantities of facts, occasionally from pure love of knowledge, but more often for the pedestrian reason that they need these facts for the ordinary running of public affairs. At any rate in time of peace, a large proportion of these facts are published, occasionally (again) in order to inform the public, but more often because published information is actually more easily accessible to public servants themselves than information which is not published. A government which employs many thousands of people has the greatest difficulty in keeping its left hand informed of what its right hand is doing; publicity makes for efficiency in administration. It is a purely incidental advantage that it provides the economist with valuable material at the same time.

When using this administrative information, it is essential to remember how it is compiled, and why; otherwise one may easily go astray. For example, when the government publishes

employment, which can be used to supplement the government figures. For the period 1880–1920 these trade union sources are very useful indeed, since government departments were not then so well informed about labour conditions as they have since become. After 1920 the government information is generally more complete.

ii. *Company accounts.* All large businesses, organized as companies, are obliged by law to publish accounts, primarily for the benefit of their shareholders. In most cases these published accounts are rather uninformative for the purposes of economic study; they do not give any more information than they have to, and that does not take us very far. But there are some important exceptions. The accounts of banks are published at very frequent intervals, and although even they do not always tell us all we should like to know, very important information can be extracted from them.

iii. *Market reports.* If you go into a shop to buy a bicycle, the shopkeeper will make a note of it for his own purposes, but no information about that particular transaction will be published. There are, on the other hand, certain kinds of purchases and sales which are carried on by professional dealers, who do find it convenient to publish a record of their transactions, so as to inform each other. These records are sometimes published in some of the daily papers (as in the case of the Stock Exchange), sometimes in specialized trade journals (as with the markets for raw materials—cotton, wheat, rubber, and so on). These market reports are very useful so far as they go, but only a small proportion of all business transactions is covered by them.

There are numerous other sources of economic information, but these are the main regular types, which give us similar information for a large number of different dates. In themselves they comprise an immense mass of material—when it is put together with similar material from other countries it is enough to fill a library of considerable size. Even so, there are many economic questions we might like to have answered whose answers cannot be found within this material; that is why some part of the time of some economists is properly spent in collecting additional information, by questionnaires and so on. But the questions which can be answered from the existing

was reached after the middle of the nineteenth century. Modern 'Foreign Trade Accounts' give us both the quantities and the values of most of these goods, and also tell us where the imports come from and the exports go to.

C. *Government Revenue and Expenditure.* These are the accounts of the government, which are presented in outline when the Chancellor of the Exchequer makes his budget speech, and are published later in much greater detail. They are very important in themselves, but they also convey much valuable information indirectly. Thus the unemployment figures, to which we referred earlier, are linked up with government expenditure, because some of the government's expenditure assists in the relief of unemployment. On the tax side, our most valuable information about the level of incomes in the country, and about the inequality of incomes, is derived from the accounts of the income tax.

D. *The Census of Production.* During the twentieth century a number of Censuses of Production have been taken. These record such things as the numbers of workers employed in various businesses, the rates of wages paid, the mechanical equipment possessed by these businesses, and the amounts of goods they turned out in a particular period. Information of this sort is extraordinarily useful to the economist; it tells him just the sorts of things he wants most to know. For some industries this information is available annually, but in most cases we have to wait until a general census of production is taken, and these have not been very frequent. The first census of production in Great Britain was taken in 1907, but only the larger firms were included. Later censuses have been taken in 1924, 1930, and 1935. These later censuses are more complete, and therefore more useful, than the 1907 census; but it was only in the two or three years before 1939 that as many as three of them had become available for comparison. You can get far more out of the comparison of three than you can out of the comparison of two; economists have had very little time to take advantage of this opportunity.

The principal regular sources of information which are compiled by other than government institutions are the following:

i. Some Trade Unions publish figures about wages and

reckoned as a part of *Economic Statistics*. The word 'statistics' is used in two senses: in the plural, to denote the numerical facts, the figures, which are the material we have been discussing; in the singular, to denote the method of handling that material. Here we are concerned with statistics in the singular.

The third stage is also a part of economic statistics. When we have got our information sorted out we shall nearly always find that it is not complete; there are matters about which we should desire to have information, but unfortunately it has not been collected in the way we want. To some extent it is possible to remedy these defects by making guesses or estimates; a good deal of progress has been made in answering the delicate question what sorts of guesses are reasonably safe and what are not. This same problem of how to make reasonable estimates arises in many other sciences; we can, to some extent, borrow the methods which they have developed for this purpose. But a good deal of care has to be exercised in doing so.

Finally, in the fourth stage, we have to arrange the facts so as to bring out the answers to our questions as well as we can. This is the stage which is usually known as *Applied* or *Descriptive Economics*. Since, as we have seen, the most useful sorts of facts are those which give us similar information for different dates, it is inevitable that the study of applied economics should come very close to that of economic history. Indeed, it is nearly true to say that economic history is just the applied economics of earlier ages; applied economics is concerned with the economic history of the contemporary world.

5. In this volume we shall be concerned entirely with the first and last of these four stages; *Theory* for the purpose of clearing our minds and sorting out the questions, *Applied Economics* to the extent that we shall give some illustrations of the sorts of answers we get to our questions when they are applied to recent history, particularly to the history of Britain between 1920 and 1939. Economic knowledge is discovered, as we have seen, by co-operation between all the four stages, each of them passing on its difficulties to the others. But for purposes of learning what has been discovered, the first and last of the stages—the ones we are going to deal with—are the ones to

material, more or less satisfactorily, are numerous and important; however, we can only begin to answer them properly if we go about doing so in the right way.

4. There are four stages in the process of acquiring economic knowledge which can be distinguished from one another, so much so that they are often regarded as separate departments of the science. But we should be quite clear about the sense in which they are separate departments. It is not that the problems they deal with are different—the same problem is often handed on from one to another of them. It is merely that they do different parts of the work of solution.

First of all, there is the stage or department which is called *Economic Theory*. The basic function of economic theory is to prepare the questions which we want to ask of the facts. It is absolutely useless to study a mountain of facts without knowing, first of all, and very precisely and clearly, what one is looking for. We start from common sense, and the broad lines of obvious information which we derive from our daily experience; we set it in order, so as to get our questions into a useful form. It is only when we have done some preparation of this sort that we can approach the facts with any prospect of getting something significant out of them.

At the second stage we make our approach to the facts. After we have decided what questions we want to ask, we have to pick out from the whole mass of economic information described above those parts which have something to tell us about the question in hand. Then, when we have made that selection, we have to examine the information, and find out exactly what it means. This last is a very important step, as can be seen from the example of the unemployment figures which was given earlier. We have to examine how the figures were collected, and what definitions were used; we have to ask whether these definitions are the same as those we found convenient in our economic theory; if not, what adjustments can be made, on one side or the other, to allow for the difference. What is chiefly involved in this second stage is a knowledge of the material out of which we are to get our results.

In the organization of the subject, this second stage is

questions about the world which lead to the growth of a science.

In Part I of this book we shall start, as we have to, with a little Theory. Beginning from common sense and everyday experience, we shall sort out our ideas until we have reached a point where we can turn to some of the statistics and hope to learn something from them. In the later parts we shall run our Theory and our Applied Economics quite closely together.

begin on. Our basic ideas need to be sorted out before we can begin to think clearly about economic problems; and we have to start as soon as possible to get practice in the application of our theory to actual experience, if only because in the absence of such practice it is impossible for the theory itself to be properly understood.

The necessity for this preliminary clearing of ideas which we call Economic Theory appears at once if we reflect how many ideas are used in the ordinary practice of business whose significance is not at all directly obvious. Some of these ideas are of a technical character, arising only in some particular industry, such as bootmaking or cotton manufacture; questions of technique are not in themselves of direct interest to the economist, although of course if he desires to make a special study of some particular kind of manufacture he will need to learn something about its technique. The ideas with which economics is concerned are chiefly those which arise, not in connexion with one industry only, but with most or all industries; such ideas as 'capital', 'income', 'cost' arise in all business problems—these are the sort of ideas we have particularly to study. One of the main purposes of economic theory is to clear our minds about such terms as these. It turns out to be a more complicated matter than might at first sight be supposed. For one thing, these terms were originally invented by business men, for business purposes; but, as we have seen, the economist has to study the business world from a wider point of view than that of the business man; consequently it is necessary for him, not only to understand the business use of these terms, but also to appreciate their wider social significance. Further, when we try to work out this social significance, we find that all these ideas are very closely connected. It is impossible to understand 'income' fully without understanding 'capital' and vice versa. Economic theory therefore tends to shape itself into a system of thought, for the questions we want to ask turn out to be interrelated; answering one helps to answer others. We cannot fully understand any one of these ideas unless we have understood its neighbours as well. Answering one question shows us another question to ask, and so on almost indefinitely—but that is of course what always happens when we ask any of those key

comfort (and perhaps pleasure) from the clothes made. In all these instances, and in many others of similar character, the work which is performed provides something which the employer or customer directly wants; whatever the nature of the want which is to be satisfied, the fact that he is to get something which he wants explains why he is prepared to pay for the work to be performed.

In many other cases the employer is prepared to pay, not because the work done is of any use to him personally, but because he expects it to result in something useful to a third person (the consumer) who will be willing to pay for it. The immediate employer is here nothing but an intermediary; he pays his employee, and the consumer pays him. The wants which are to be satisfied are the consumer's wants; the consumer is willing to pay because he gets something he wants; the employer is willing to pay because he expects to be paid by the consumer.

The necessity of having some sort of an employer-intermediary is made evident when one reflects how many workers there are whose work is in itself absolutely useless, though it becomes very useful when it is combined with the work of other people. The typical factory worker, nowadays, is engaged on some small specialized operation, which is only a stage in the making of some part of a useful article, a part like the lace of a shoe or the chain of a bicycle. Unless there are other workers to perform the other stages, and make the other parts, his work is utterly useless. There is no point in doing work of this kind unless there is someone to organize the different operations into a unity; to do this is the work of the employer-intermediary, the business manager or director, the professional employer, who brings together the different people who have the different sorts of skill needed to produce the complete article. Such an employer is not a consumer like the man who employs a doctor or a chimney-sweep; he is a worker or producer, contributing his own very important share to the process of producing goods which consumers want. Employer and employed are in fact co-operating together in the production of something useful to consumers; they each of them derive their earnings from the payments made by the consumers, who purchase the finished articles they have produced.

PART I

THE PRODUCTIVE PROCESS

I

PRODUCTION AND EXCHANGE

1. ECONOMIC affairs enter into the life of every one of us, the most important economic activity in the life of the ordinary man being the way he earns his living. People earn their living in all sorts of different ways—by manual work, by brainwork, in factories, in offices, and on farms, in dull ways, in interesting ways—but the thing which is common to all ways of earning one's living is the doing of work for which one is paid, doing work and being paid for doing it. In most countries the majority of people earn their living by working 'for' some particular employer; they receive their payment in the form of a wage or salary (which latter is only a word of Latin origin meaning *wage*, used instead of 'wage' so as to sound grander). But there are some people (it happens with dockers, gardeners, and journalists, for example) who may divide their time between two or three employers. And there are others (shopkeepers, doctors, farmers who deliver milk directly, and so on) who serve quite large numbers of different employers or *customers*—for it is really very much the same thing. Whatever sort of work it is that is done, whatever form the payment for doing it takes, the common element is always there: in order to earn his living a man has to work, and there has to be someone—an employer, or customer, or client—who is prepared to pay him for doing it.

Now why should the employer be prepared to pay? There are in fact several distinct cases. In the first place, an employer may be prepared to pay to have work done for him because the work is directly useful to him personally. A sick man goes to (that is, employs) a doctor because he hopes as a result to feel better in health; a householder employs a chimney-sweep so that he can warm himself at a coal fire without inconvenience; a woman employs a dressmaker because she expects to derive

operation to satisfy the wants of consumers. The wants are usually harmless, but they may be deplorable; the methods of co-operating to satisfy even the most respectable wants are sometimes inefficient and stupid. Yet whether the wants are good or bad, whether production is organized efficiently or not, the description still holds. Economic life is an organization of producers to satisfy the wants of consumers.

Who are these consumers for whom the world is working? To a very large extent they are just the same people as the workers and producers themselves; the same people are workers and producers in one capacity and consumers in another. The consumer who spends his money upon the product of one industry (a bicycle or a suit of clothes) has earned that money by working in another occupation (say printing or market-gardening). The bicycle makers and the clothing and textile workers spend their earnings in turn upon the products of other industries, the workers in these spend their earnings upon other products, and so on; among the various classes of workers and producers who come into the picture at one or other of these stages there will be some who will spend some part of their earnings upon the books and newspapers, the vegetables and flowers, which were the products of the printers and market-gardeners we started with.

The organization of production and consumption in the modern world is an immensely complicated affair; but if we turn our minds to the way it would be worked out in a simpler state of society, the general nature of the organization is at once apparent. Before the improvements in transport which have taken place in the last two centuries, the vast majority of the human race lived in fairly self-contained villages, villages which traded with one another in a few kinds of goods, but were in the main self-supporting. In such a village the principle upon which production has to be organized becomes clear at once. The whole thing is a system of exchanges. The farmer uses some part of his produce to satisfy his own wants, but sells some part to his neighbours. With the proceeds of that sale he buys other things which he needs—clothes from the weaver, woodwork from the carpenter, pottery from the potter. The weaver, in his turn, spends some of his time making his own

Every firm or business consists in essence of a co-operation of workers, organized in some way or another to produce saleable products. But it is not always the case that the products are sold directly to consumers; very often the product of one firm is sold to another firm, which performs some further operation upon it before it reaches the consumer's hands. Even when a firm has turned out the precise material product which the consumer wants—the jam, the toothpaste, or the newspaper—there is still the further stage of providing it at the place and time where and when it is wanted; to do this is the function of the trader and the shopkeeper, who assist in satisfying people's wants just as much as other workers do. It often happens, on the other hand, that the product turned out by a firm has not yet reached the material form in which the consumer will finally want it; the products of steelworks and spinning-mills are only the raw materials of useful articles; they are usually sold to other firms, which use them as ingredients in further production. But even in these cases, although the chain connecting the particular firm with the ultimate consumer may be quite a long one, it is still there; if we take the trouble we can see for ourselves that the ultimate object of the work which is done is to assist in making something which some consumer will want, and will be willing to pay for. That consumer may be near at hand, or he may be at the other end of the earth; still he can always be found if we look for him. It is only because there is a prospect of finding a consumer at the end of the whole process, who will be prepared to pay for something he finds useful or desirable, that people can find employment in industry or in any sort of production at all.

2. Thus it appears that the whole of the economic activity of humanity (that vast complex of activities which we call the Economic System) consists of nothing else but an immense co-operation of workers or producers to make things and do things which consumers want. When it is described in this way, the economic system may sound quite an admirable thing —perhaps too admirable to agree with our experience of it. But in fact there is nothing necessarily admirable about a co-

a co-operation of producers to satisfy the wants of consumers; on the other hand, remembering that the producers and consumers are largely the same people, we can look upon it as a system of mutual exchanges. We shall find, as we go on, that it is very useful to have these two different points of view from which to approach our subject. Some things will be clearer from one of these standpoints, some from the other; and we can use one as a check against the other. It will be particularly useful when we come to making the fundamental classifications, which will occupy us in the next two chapters, to be able to check them up from each of these points of view. But before we proceed to that, we ought to satisfy ourselves that our treatment of the system as one of mutual exchanges is really correct, and not subject to qualifications. There are certain difficulties which do undoubtedly present themselves, and of which we ought to take proper account.

First of all, there is the question of money. Although the ultimate object of anyone who works or produces is to acquire useful things in exchange for his work, the immediate way he gets paid is not in the form of directly useful things, but in the form of money. The printer and journalist do not supply their customers with newspapers, getting bread and meat and clothes in direct exchange; they sell their newspapers for money, and then spend the money upon the things they want to buy as consumers. There is an obvious convenience in this arrangement. It must often happen that the people who supply the printers with clothes do not want to take newspapers to the full value of the clothes; if they had to take payment in newspapers, they would be obliged to resell the newspapers to another set of people; this would take time to arrange, and would be quite horribly inconvenient. To replace these complicated resales by a simple handing-on of tickets—for that is really what it amounts to—saves an immense amount of trouble. The people who sell clothes to the printers do not take payment for them in newspapers but in tickets—that is, money; if they like, they can spend some of the money on newspapers, but if they prefer to spend it on bread and cheese, there is nothing to stop them. If they pass on the money to makers of bread or cheese, these people can spend it on newspapers, or they can hand it on to

clothes; but he sells most of his produce, using the proceeds to purchase the farmer's milk, or the potter's pots. And so on. 'You do this for me, and I will do that for you.' It is on bargains of this sort that the whole organization rests.

The advantage of organizing economic life in this way arises from the increased efficiency which comes from each person having a job, and sticking to it. 'The jack of all trades is master of none.' Although excessive specialization results in monotonous work, some degree of specialization is needed before any skill can be acquired. Instead of each person working so as to satisfy his own wants alone, which would mean wasting a great deal of time in continually shifting over from one job to another, everyone becomes to some extent a specialist, concentrating on one particular job or small range of jobs. The other things he wants done are done for him by other people, and in exchange for these services he uses his skill in serving them.

The main difference, from this point of view, between the primitive village organization and the economic system of the modern world is that in the modern world specialization has been carried immensely further. The wants of the ordinary person in the twentieth century are catered for by a system of exchanges in which an immensely larger number of people take part. The ordinary worker does not do more than assist in the production of some useful article. He joins together with a large number of other workers in producing something which will be useful to others, or perhaps to some of those he joins with; the things he gets in exchange are themselves the result of extensive, even world-wide, co-operation among producers. The reason for the adoption of this complicated system is still the technical advantage of specialization; subdividing productive processes has increased the efficiency of labour, enabling all sorts of more efficient methods (particularly mechanical methods) to be introduced into production. Nevertheless, in spite of the greater complexity of the specialization involved, the principle remains the same. 'You do this for me, and I will do that for you.'

3. We have now discovered two different ways of looking at the economic system. On the one hand, we can look upon it as

social significance, since some of the deepest divisions in society turn on the distinction between capitalist and worker; as we go on, we shall find that economics has to concern itself with these divisions to a very considerable extent. All the same, our double description of the economic system does not appear to be affected by the private ownership of property. The owner of property contributes to the productive process by allowing the use of his property in production; to this extent he has to be reckoned as a producer. He exchanges the use of his property for a share in the products of industry; in this way he enters into the system of exchanges. It is quite true that he gets these advantages much more easily than the worker does; or if (as is usually the case) he is also a worker, he gets a larger income than other workers get from the performance of similar work. If we decide, on the ground of convenience, to reckon the owner of property as a producer, we must not allow ourselves, in consequence of this decision, to beg any questions about the desirability of private property as an institution. The institution of private property has to be tried by more searching tests; but we shall find it easier to apply those tests if we begin by getting a clear idea about the working of the system in which private property functions.

The only real qualification to the rule that the economic system can be looked on as a system of exchanges comes from the economic activities of governments, national and local. Some part of the money which people receive, in return for the labour they have performed, or for the property they have allowed to be used, is taken away from them by public authorities in taxes and rates. In order to see how these taxes fit into the system, we must consider the purpose for which they are raised. Governments sometimes raise taxes in order to make presents to some of their own citizens or to foreigners; under this heading would come such things as tribute to a foreign power, pensions to the ex-soldiers of past wars, relief to the unemployed. All these things are just compulsory gifts from one set of persons to another; some of them are very sensible and desirable, some very undesirable. But some of the taxes which are raised by governments are raised for another purpose: they are raised in order to pay for the employment of people to do work for the

someone else to spend on newspapers, or it can be handed on again. The use of money enables indirect or roundabout exchanges to take place, without the goods which are exchanged having to be passed on unnecessarily from one person to another. That is the advantage we get from the use of money; it increases the flexibility of the system of exchanges to an extraordinary extent. But it does not make much difference to the essence of the system. Instead of newspapers being exchanged for clothes directly, the exchange takes place in two stages—the newspapers are sold for money, the money is spent on clothes. And so long as the money is only acquired for it to be disposed of again without abnormal delay, the division into the two stages proceeds quite smoothly. But circumstances do sometimes arise in which the second stage of the exchange is unduly delayed; goods are sold for money, and yet the money is not spent again until a considerable time has elapsed. When this happens on an unusual scale, the result may be that the system of exchanges gets clogged. The world has had some bad experiences of this sort during the last twenty years; the economic system has shown itself capable of developing monetary diseases of several different kinds. The Theory of Money, which is a special department of economics, is particularly concerned with studying these diseases; most of it lies outside the field which we shall study in the present volume. But it is impossible to study economic problems at all realistically without paying some attention to these matters, so that we shall be bound to encounter some aspects of these monetary diseases even here.

Another complication comes from the ownership of property. Most useful goods cannot be produced by human effort alone; the worker needs tools to work with and materials to work on. The products of agriculture are produced from the land; the products of mechanical industry are produced with machines; if agricultural land and industrial plant are in private ownership, the owners of these useful resources may be able to exact a price for their use. That is to say, people may acquire tickets which entitle them to purchase other people's products, not by contributing their labour to the productive process, but by allowing the use of their property. This is a matter of the most profound

socialist state, just as much as to one which is based on a system of private enterprise. In either case we can look upon the economic system as a co-operation of producers to satisfy consumers' wants (including collective wants); or alternatively (apart from the qualification about taxation) we can look upon it as a system of mutual exchanges.

good of the community in general—as, for example, soldiers or policemen or road-menders. These people work to satisfy the wants of consumers; their work is part of the Productive Process, but it does not result in the production of such things as can be bought by individual consumers, though consumers in general do undoubtedly desire that they should be provided. The wants which are satisfied by work of this sort are collective wants, not individual wants. During war time a very large proportion of a nation's productive power is turned over to the satisfaction of collective wants, for the whole of the armed forces and of the munition industries must be reckoned as working to that end. Even in time of peace, the number of people whose work has to be reckoned as being directed to the satisfaction of collective wants is usually very considerable.

It might be supposed, at first sight, that the proportion of its population working for the satisfaction of collective wants would be a measure of the degree of socialization reached by a particular nation. But that is not so. Even in a completely socialized state, like Communist Russia, where the government is very nearly the only employer of labour, the proportion of persons working to satisfy collective wants need not be abnormally high. For in a socialist state the government does not only control the production of those things which are wanted collectively, it also controls the production of things wanted individually. (There are, of course, little bits of socialism in this sense even in non-socialist countries—nationalized railways, municipal gasworks, and so on.) In a socialist state, people work for the government, whether they are producing collective goods, like roads and parks and military aeroplanes, or individual goods, like food and clothing. The roads and military aeroplanes are paid for by the public out of taxes, but the food and clothing are bought from the government, just as they would be bought from private producers in a community which was not organized in a socialist manner. Over the greater part of the field, the socialist government merely acts as an intermediary, in the same way as the private employer. Thus there is nothing in socialism, as such, to prevent us from regarding the economic system as a system of exchanges. Indeed, most of the economic theory in this volume can be applied to a

and retailer deal with material goods, but they do not make them; their part is to take goods already made, and to make them more useful by supplying them at the places and times at which they are wanted. But there are many sorts of workers who are not concerned with the production of material goods at all; doctors, teachers, civil servants and administrators, passenger transport workers, entertainers, domestic servants—all of these are producers in our sense, though they do not produce material products. They do useful work and are paid for it; consequently they count as producers. The things they produce are useful services, not material goods; it is convenient to say that the things produced by producers and consumed by consumers are of two kinds—Goods and Services, material goods and immaterial services.

The performance of such services as these is included in production; but if we are to be faithful to our definition, we may not say that all performance of services for other people reckons as production. Production is activity directed to the satisfaction of other people's wants through exchange; thus it is only those services which are paid for that have to be included. The most important kind of services which, on this test, have to be left out are the services performed within the family—the work done by wives for their husbands, by parents in looking after their children, and so on. These services are not to be reckoned as productive, because they are not paid for. It is of course not very convenient that we have to exclude this essential work from our definition of production, but there does not seem to be any help for it, if we are to have the advantage of using words in precise and well-defined ways.[1] The fact that we have excluded it from our definition does not absolve us from keeping the fundamental importance, the fundamental economic importance, of this sort of work very much in our minds.

2. There was a stage in the development of economic thought when the inclusion, in the definition of production, of those direct services which are paid for was not accepted even by economists. Adam Smith himself confined the term 'produc-

[1] A further discussion of this, and of some related subjects, will be found in Appendix, Note A.

II

GOODS AND SERVICES

1. As soon as we have understood the double nature of the economic system, as it was explained in the previous chapter, we can see that it will be convenient to shape our further classifications in ways which will fit in with each of the two aspects. Henceforward we shall mean by *production* any activity directed to the satisfaction of other people's wants through exchange; we shall use the word *producer* to mean a person engaging in production in this sense. A person whose wants are satisfied by such production we shall call a *consumer*. Previously we have used these terms in a looser manner; from now on we shall try to confine them to these precise senses.

Let us see what we are committed to by these definitions. The words *producer* and *consumer* are widely used in ordinary speech and in business; but in practical life they do not need to be used very precisely or uniformly, so that they are often used in senses which do not square with our definitions. Farmers, for instance, are fond of drawing a contrast between their own activities as 'producers' of food-stuffs and those of the traders or retailers, who merely sell or 'distribute' them. On our definition the retailer is a producer just as much as the farmer. The work done by the retailer is a part of the process of satisfying consumers' wants, just as much as the work of the farmer. Milk on the farm and tobacco at the factory are of little use to anyone except the farmer and the manufacturer themselves; milk on the doorstep and tobacco in the shop are provided, more or less, where and when the consumer wants them.

The reason why people have been able to persuade themselves that farmers are producers, while retailers are not, is of course that the word 'production', used in other senses than the economic, suggests the making of something material, something you can touch or handle, something you can cart about on a lorry or bring home in a paper bag. A very great part of economic production does consist in the making of material goods, but quite a large part does not. The trader

are contemporaneous and inseparable. Goods, on the other hand, have to be produced first and consumed afterwards. The production and consumption of services are, practically speaking, instantaneous; but the production and consumption of goods form a process. The further classifications, which will concern us in the rest of this chapter and in the next, are all concerned with the economic system considered as a process.

3. On a certain day (say in the spring of 1938) the reader of this book will probably have eaten a piece of bread for breakfast. Behind that piece of bread was a considerable history. Two or three days earlier it was baked by a baker, who for his stage in the process of breadmaking used various ingredients, notably flour. Some weeks earlier the flour will have been milled out of wheat, various kinds of wheat being very probably mixed together, some imported from overseas, some produced at home. This wheat will have been harvested, probably during the year 1937, the precise date depending upon the part of the world from which it came. Some months before the time of the harvesting the wheat must have been sown, and before the sowing the land on which it was grown must have been ploughed. Taking this simple line of operations, from the ploughing of the land to the bread on the table, not much less than a year can have elapsed between the start and the finish. Often it will be a good deal more than a year. But this is by no means the whole of the history behind that piece of bread.

At every stage in the process described, ploughing, sowing, harvesting, threshing, milling, baking, power or fuel was needed. The power used for ploughing may have been nothing more modern than the traditional horse; if so, that horse had to be fed, its feeding-stuffs had to be grown, and the growth of the feeding-stuffs extends the process of production backwards for another series of months. Or the power may have been provided by a tractor; tractors use oil, so that the getting of the oil and its transport to the farm (another stage involving at least a month or two) have also to be reckoned into the process of production of the bread. The same will hold for the power (of whatever kind) used in harvesting, threshing, and milling; also for the coal or electricity used at the bakery. Of

tive labour' to that labour which is devoted to the production of material goods. In a famous passage[1] he gave a list of such occupations as must be reckoned to be 'unproductive'. Beginning with 'menial servants', he goes on:

> The sovereign, for example, with all the officers both of justice and of war who serve under him, the whole army and navy, are unproductive labourers. . . . In the same class must be ranked, some both of the gravest and most important, and some of the most frivolous professions: churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, opera-dancers, &c.

This looks like the same fallacious, or at least uneconomic, way of thinking as is common among those who approach economic affairs from the standpoint of the technical processes of manufacture; it is strange to find it in the most famous of all economists. The manufacturer and the farmer naturally think of production as *making* something; we have seen that economics has to have a wider definition. Why did Adam Smith suppose the contrary? It was not because he supposed the distinction between material and immaterial products to have any economic significance; his reason was more subtle. Later economists have not been prepared to allow their definition of production to be influenced by it, but they have had to pay much attention to it in other parts of their economic theory. Adam Smith put it in this way:

> The labour of the menial servant does not fix or realise itself in any particular subject or vendible commodity. His services generally perish in the very instant of their performance. . . . Like the declamation of the actor, the harangue of the orator, or the tune of the musician, the work of all of them perishes in the very instant of its production.

The reason why Smith adopted his odd definition of production was because he was impressed by the fact that the production of most goods takes time, often a very long time, and the consumption of these goods comes afterwards. The significant thing about direct services is that the acts of performing the labour and of enjoying the results of the labour

[1] *Wealth of Nations*, Book II, ch. 3 (vol. i, p. 314 in Cannan's edition).

In our illustration, the bread is a consumers' good; the wheat, the flour, the tractor, the ship, the oven (and so on) are producers' goods. A producers' good may be technically finished, in the sense that the particular operation needed to produce it is completed (the wheat has been harvested, or the tractor ready for use). Or it may not be technically finished, but still in process, even so far as its own stage is concerned (the corn may be standing in the field, or the ship still on the stocks). In either case it is a producers' good, because further stages are needed before the result of the whole process can pass into the consumers' hands. The consumers' good is the end of the whole process; producers' goods are stages on the road towards it.

4. The production of any consumers' good one cared to select could be similarly shown to consist of a process, occupying in all quite a considerable time, and involving the production of a number of producers' goods on the way. It has next to be noticed that with some consumers' goods, but only with some, consumption is also a process taking an appreciable time. Consumers' goods can be divided, from this point of view, into two classes.

In the first class we have goods, like the bread of our example (and food-stuffs generally), which are used and used up in a single act. The careful housewife may make a loaf of bread last two or three days, but only by dividing it into slices, and consuming the slices at intervals. Each piece of bread is used up as soon as it is used at all. Other consumers' goods which are of the same type are fuel, tobacco, matches, and writing-paper. I shall call these goods *single-use goods*. From the point of view of consumption, services are similar in character to the single-use goods;[1] but, as we have noticed, they are different on the production side.

The other goods I shall call *durable-use goods*. Houses, furniture, clothes, wireless sets, bicycles, and motor-cars are

[1] It is of course true that the effects of consuming a particular service may last a long time through being stored in the memory; this, however, does not prevent the consumption itself being a single act. In the same way, the medicine which saves a man's life is a single-use good; but its effects remain as long as he lives.

course many of these latter processes will be going on simultaneously, so that they do not lengthen the total time taken by the production. Nevertheless, when we have taken the power into account, the whole period looks more like two years than one.

Even this is not all. The tractor, the threshing-machine, the ships used for bringing the wheat from overseas, the elevator used for storing it, the milling machinery used for making the flour, even the baker's oven—all these had to be made at some time or other, and the reason why they were made was because they would be useful in the manufacture of bread. Not of course this particular piece of bread, which is far too humble an article to be able to claim for itself alone such mighty antecedents; but this piece of bread, and millions like it, are the reasons why the tractors and elevators and ovens and the rest of them were brought into being. All this elaborate equipment was in fact constructed as part of the process of manufacturing bread.

If at some date, three months or six months or a year before the bread appeared upon the table, we had examined how the process of producing it was getting on, we should have found that most of the equipment was already made and in use, while the raw material of the bread was still in the form of growing crops, or threshed wheat, or bags of flour. These things can all be looked upon as stages in the manufacture of the bread; whatever stage has been reached, even if it is only the making of the tractor, or the building of a tanker to transport the oil to feed the tractor, something has been done which will come in useful and help towards the final production of bread. The products which result from these early stages are useful products, but not products which are directly useful for satisfying the wants of consumers. Their use is to be found in their employment in the further stages, at the end of which a product which is directly wanted by consumers will emerge. It is convenient to use the term *goods* to cover the products of these earlier stages, as well as the final product which the consumer purchases. But the products of the earlier stages are called *producers' goods*, to distinguish them from the *consumers' goods*, which do satisfy the consumers' wants directly.

not need to be bought continuously, but only when the want for them first appears, or when an old one has broken down or become impossibly shabby. It follows that while the purchase of most sorts of single-use goods will take place at fairly regular intervals, purchases of durable-use goods may be very irregular. This is a matter of considerable importance for the running of the productive process. If all the goods which consumers wanted were single-use goods, it would be comparatively easy to organize the economic system so as to keep it running continuously at the same level of activity. The production of durable-use goods is much harder to stabilize, just because the need to purchase such goods is so much less regular. Nevertheless, durable-use goods are of great importance to the consumer; although food and warmth, the most urgent necessities, are single-use goods, some durable-use goods are essential at any standard of living, while at a higher standard they provide more solid satisfaction than single-use goods can do. Luxury single-use goods mainly take the form of entertainment; luxury durable-use goods range from good housing and good clothing to books and pictures and musical instruments and garden plants, the typical ingredients of a civilized life. People who buy these things can satisfy their wants for them without buying them so regularly as they would buy food; it is in consequence more difficult to arrange for their production in ways which may not involve economic disturbances. Very much the most difficult case is that of housing; we shall discuss it in more detail in another connexion.[1]

5. A similar distinction between single-use and durable-use varieties can be made for producers' goods. Some producers' goods are used up—though this may only mean that they have passed on to the next stage in their production—as soon as they are used at all; others can go on being used in the same way for long periods. In the illustration we gave, the wheat, the flour, and also the oil and the electricity were single-use goods in this sense; the tractor, the ship, and the baker's oven were durable-use goods. Generally speaking, single-use producers' goods are the materials used in industry; though half-

[1] See Ch. VIII below.

examples of this second class. Their common characteristic is that they can go on being used for considerable periods. The fact that they have been used on one day does not prevent them from being used again on the next. The lengths of time for which they can go on being used vary of course a good deal. A pencil is probably to be reckoned as a durable-use good, in spite of the fact that it is bound to wear out after a few months of use. At the other extreme are such things as old furniture, which can go on being used almost indefinitely (apart from accidents), so long as it is properly looked after and kept in good repair.

The distinction between single-use goods and durable-use goods must not be confused with another distinction, of very similar character, which is commonly made in books on economics. It has been usual among economists to classify consumers' goods into *durable goods* and *perishable goods*; these classes are similar to ours, but they are not exactly the same. *Durable-use* goods are necessarily *durable*, but not all *single-use* goods are *perishable*. Coal, for example, is a very durable good; it can be stored almost indefinitely, and will not deteriorate seriously, so long as it is not used. But it cannot be used without being used up. Thus it is a single-use good. There are many other single-use goods which have a fair degree of durability; tinned and otherwise preserved foods are instances. The fact that they are capable of being stored is an important characteristic of these goods, a characteristic with important economic consequences. But, for the present at least, it is not the characteristic we want to emphasize. The main classification of consumers' goods is into the single-use and durable-use varieties.

The goods which are purchased by a particular consumer belong partly to one of these varieties, partly to the other. Most of the single-use goods which are purchased have to go on being purchased, week after week, day after day. To have had a good meal yesterday does not prevent one from wanting another good meal to-day; to have been warm last night does not prevent one from needing to be warmed again this afternoon. Durable-use goods, on the other hand, may go on being useful for long periods after they have been bought; thus they do

III

CONSUMPTION AND INVESTMENT

1. We have now got a general idea of the productive process; but before we can turn to the facts, and try to make sense of them, we need yet another set of definitions. The processes of production and exchange which we have been describing go on more or less indefinitely; they have gone on since the dawn of history, and will go on as long as the human race exists; although it is true in one sense that particular processes come to an end every day with the completion and sale of finished consumers' goods, these goods have usually been produced along with many others (the durable-use producers' goods used in making them are for the most part still in existence, and being used again), so that it is very difficult to find a self-contained process which can ever be said to be really over, just as we have seen that it is very difficult to find a date when it can really be said to begin. The only way in which we can limit our investigations, so as not to have to deal with the whole of human history at once, is to select a particular period of time and to confine our attention to the working of the productive process during that period. Usually (though not always) the period which it is most convenient to take is a year.

The statistics of production which were described to in the introductory chapter of this book usually refer to annual periods: They must of course always refer to some period. There is no point in saying that the number of aeroplanes produced is 1,000, unless one states the time to which this output refers. An output of 1,000 aeroplanes spread over two months is the same rate of output as 500 aeroplanes in one month. All measurements of the quantity of production have to refer to a stated period. If we are to use our definitions so as to square with these measurements, our definitions too must refer to a particular period of time.

Let us therefore fix our minds on the working of the productive process during a particular year—say, 1936. We must think of the whole stream of time as being spread out before us,

finished products ought also to be reckoned as single-use goods at another stage. Durable-use producers' goods are the instruments of production—tools, machinery, industrial plant of all kinds. The production of durable-use producers' goods is perhaps even harder to stabilize than the production of durable-use consumers' goods—for much the same reasons. But we are not yet in a position to deal with such questions.

durable-use goods are no doubt predominant. These goods are inherited from the previous year; for the most part they are the result of production in that and in earlier years. The durable-use consumers' goods inherited from the previous year include the houses people are living in, the furniture they are using, the clothes they are wearing, and so on. The durable-use producers' goods will include the factories, the machinery standing in the factories, the railways, ships, lorries, tools, and so on which are available for use in production during the coming year. The single-use producers' goods which are inherited will include stocks of materials, goods undergoing processes that are still unfinished, finished goods waiting to be sold. The single-use consumers' goods (not so many of these) will include such things as foodstuffs already in the larder; remembering that the retailer is also a producer, foodstuffs in the shops ought to be reckoned as producers' goods.

This is the position at the beginning of the year. Then the wheel of time rolls on, and the wheels of production begin to turn. The goods in the larder are used up, and replaced by new goods out of the shops—that is to say, producers' goods pass into consumers' goods. At the same time, the vacant places in the shops are filled by new producers' goods coming forward —that is to say, the materials existing on 1 January are worked on by labour, with the help of durable-use producers' goods, and turned by degrees into finished products. At the same time, other workers, using other durable-use producers' goods, are preparing new materials. And other workers are making new durable-use goods. So the process goes on, with a continual stream of new consumers' goods passing into consumption, and new single-use producers' goods poking their heads out of the productive process, only to be tucked in again.

Those producers' goods which are produced during the year, and used up in further production within the year, do not reckon as part of the year's output. They are taken to be included in the consumers' goods of which they are the materials. If we were allowed to extend our gaze into the indefinite future, we should presumably find all the producers' goods incorporating themselves in consumers' goods in this way; but we are not allowed to look forward indefinitely. The year has an end as

like a film which has been unwound. We take our scissors and cut out a particular section of the film. Or we may say that we put a spotlight upon this particular year, leaving everything before it and after it in the dark. What is the effect of this limitation upon the classifications we have given?

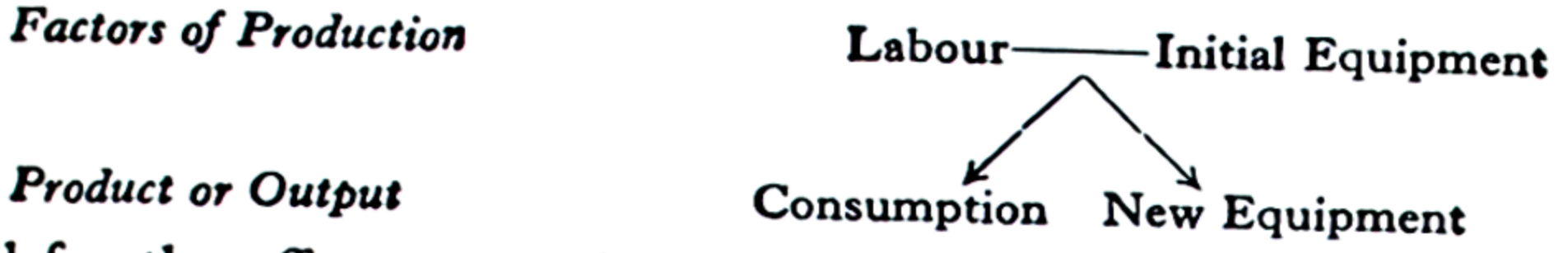
2. During the year producers will be turning out services and goods of all kinds, single-use goods, durable-use goods, producers' goods, consumers' goods. Most of the single-use goods will be used up in the course of the year, the consumers' goods in the direct satisfaction of consumers' wants, the producers' goods in the making of consumers' goods. It is fairly evident that single-use producers' goods, produced and used up during the year, ought not to be reckoned as part of the total production or output of the year. If we were to include both the bread and the flour out of which it is made, we should be reckoning the same productive effort twice; if we did this, there would be no reason why we should not include the wheat as well, and even the wheat standing in the field as well as the threshed wheat after it had been harvested. Once we allowed ourselves to reckon in both the single-use consumers' goods and the single-use producers' goods out of which they are made, there would be nothing to stop us from dividing the process of production into a large number of stages, and counting what is essentially the same product as many times as we like. This would make the result of our calculation completely arbitrary. 'Double counting' of this sort has clearly got to be avoided.

Those single-use producers' goods which are produced and used up during the year must not be counted as part of the year's production. But does this mean that all producers' goods have got to be excluded? At first sight one might suppose so, but that is not the case. For the production we are concerned with is the production of the year 1936, and some of the durable producers' goods produced during 1936 will outlast 1936. We have to pay special attention to the hang-over from one year to another.

At the beginning of the year (the morning of 1 January 1936) there exists in the community a particular stock of goods, including some from all our four types, but among which the

goods are producers' goods, used up again within the year, so that they do not reckon into the year's output; the goods which are included consist partly of consumers' goods, consumed within the year, partly of new equipment, added to the initial equipment as a result of the year's production. The equipment which exists at the end of the year becomes the initial equipment of the next year; it equals the initial equipment of the first year *plus* the new equipment which has been added *minus* the using-up of equipment which has taken place within the year. This is the scheme of the productive process which we need to have in our minds.

All the product or output of the year comes from labour and the initial equipment; these are therefore called the Factors of Production. The output of goods consists either of consumers' goods, consumed within the year (Consumption) or of New Equipment. We can therefore set out our scheme in the form of a table:



And for the effect on equipment of the year's production

Initial Equipment 1937 = Initial Equipment 1936
+ New Equipment produced in 1936
— Using-up of equipment during 1936

The classification set out in this table is of fundamental importance for the whole of that part of economics which we shall study in this book. Everything further we have to say is nothing but elaboration of it and application of it to practical problems. For when theory has reached this point, it does begin to be capable of being applied.

4. Before we can proceed to these applications, it should first be noticed, however, that the table as it stands is not quite complete. In the first place, services have been left out of account, as Adam Smith left them out of account—and for what turns out to be substantially the same reason. Just as we have been learning to do, Adam Smith thought of the productive process

well as a beginning; many of the consumers' goods in which the producers' goods of this year will be incorporated belong to future years, not to this year. There will be producers' goods left over at the end of this year, just as there were producers' goods left over to this year from the year before.

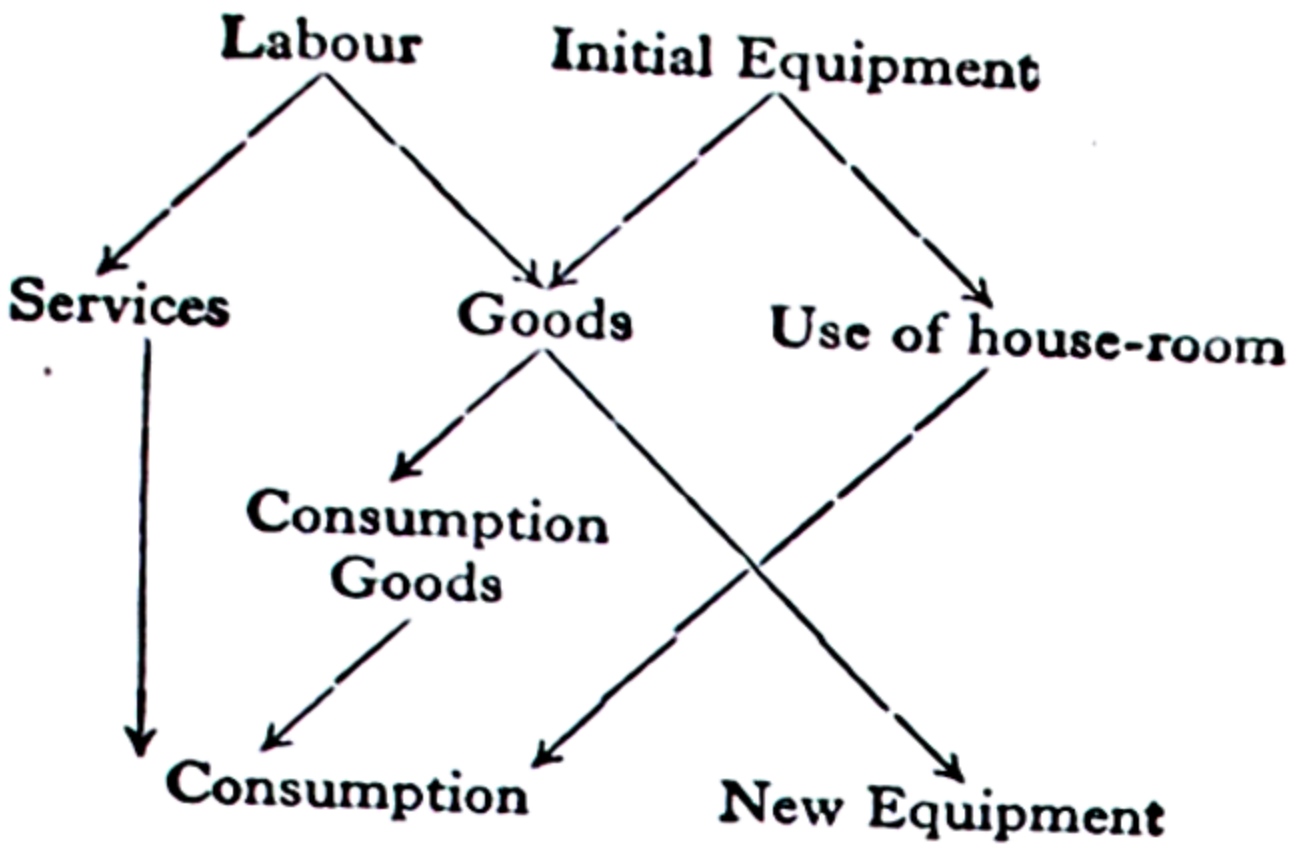
There is no reason why the quantity of producers' goods bequeathed to 1937 should be the same as that inherited from 1935. The single-use producers' goods inherited from 1935 will, for the most part, have been used up in the production of 1936; new goods will have been produced to replace them, but these new goods may be greater or less in amount than the goods which have been used up. Some of the durable-use producers' goods inherited from 1935 will also have been used up, or worn out, during 1936; and even those which are not worn out will be a year older in January 1937 than they were in January 1936; this will often mean that they have a year's less 'life' left in them. Against this *depreciation* of the durable-use goods previously existing has to be set the production of new durable-use goods; but the depreciation may or may not be completely offset by the new production. If it is not completely offset, the quantity of such goods at the disposal of the community will be less at the end of the year than it was at the beginning; if it is more than offset, the quantity at the end of the year will be greater.[1]

The same process of using-up and replacing will occur with consumers' goods as well. 1936 will have inherited from its predecessors certain quantities of consumers' goods (mainly durable-use goods, houses, and so on); it will hand on certain quantities to its successors. One of the tests of successful productive activity during the year is to be got by comparing the quantities at the end with those at the beginning.

3. The process of production during the year can therefore be described in summary fashion in the following way. At the beginning of the year there exists a certain stock of goods (all our four kinds) which we may call the Initial Equipment. During the year the initial equipment is worked upon by Labour, and there is produced from it a stream of goods. Some of these

[1] For some qualifications to this statement, see Appendix, Note C.

Our revised table may therefore be written as follows:



The new houses produced during the year are of course included in the new equipment.

5. Our table is now complete, but before we can use it we must introduce two new terms. Instead of our phrase 'Initial Equipment', economists usually employ the term 'Capital'; instead of our phrase 'New Equipment' the term 'Investment' is now generally used. We had better familiarize ourselves with these important words.

I have so far avoided talking about *Capital* and *Investment*, because these are such outstanding instances of the way in which economists have taken words used by business men and given new meanings to them, meanings which are not (as least on the surface) the same as the business meanings. There is a relation between the meanings of capital and investment in economics and their meanings in business practice; we shall try to get that relation cleared up before we are done. But for the moment it is only the economic meanings which concern us.

In economics, the capital of a community consists in the stock of goods of all sorts possessed by the community (either by its individual members, or by associations of its members, such as governments) at a particular moment of time. Thus our 'initial equipment' is the capital possessed by our community on 1 January. In economics, investment is the making of additions to capital. Thus the making of our 'new equipment' is investment.

as consisting of labour working on initial equipment, and making it grow into consumption goods and new equipment. And services did not fit into the picture properly; consequently he excluded them as 'unproductive'. We have decided not to take that way out, and so we must find some way of fitting services into our picture. We can really do so quite easily, if we include the services produced in the year as part of the consumption of the year, and allow for the possibility that these services may have been produced by labour alone, without making use of initial equipment to any important extent. (Of course—and this is even more true to-day than it was in Smith's time—services may require the assistance of durable-use goods from the initial equipment if they are to be produced; for instance, passenger transport workers provide direct services, but they use a great deal of equipment in providing these services.) This, then, is one of the adjustments which have to be made.

The other adjustment concerns the durable-use consumers' goods, which are included in the initial equipment, and do in fact form an important part of it. Take, for example, houses. The houses which exist at the beginning of the year do for the most part go on being used during the year; they make themselves useful, very useful indeed. The use of a house is a thing for which people are prepared to pay; a man pays rent for the right to live in a particular house, just as he pays for the goods he (or his wife) purchases in the shops. We reckon the goods purchased in the shops as part of the consumption of the year, and since house-room is purchased by consumers in the same sort of way, it is convenient (even if it means some stretching of terms) to reckon the use of house-room as part of the consumption of the year, and consequently even to reckon it as part of the production or output of the year. There is something to be said for doing the same with all the durable-use consumers' goods contained in the initial equipment (the motor-cars, for example). But, largely because houses are very frequently rented by their occupiers, while motor-cars are usually bought outright, it is usual to include in this way only the use of houses.[1] Houses are in any case the most important type of durable-use consumers' goods.

[1] See again Appendix, Note A.

PART II

THE FACTORS OF PRODUCTION—LABOUR

IV

POPULATION AND ITS HISTORY

1. Let us begin by looking at some figures. The following table sets out, in round numbers, the population of a number of countries at various stages in modern history. Since the taking of accurate censuses only began in the United States in 1790, in Great Britain in 1801, and in the other countries at various dates in the nineteenth century, it will be understood that the figures for 1650 are only guesses (though they are careful guesses),[1] while some even of the figures for 1800 and 1850 are not very much better. It is only in the later columns that all the figures are known precisely, but it is not likely that any part of the table is seriously misleading. There have, of course, been some important changes in frontiers during the period; the most important changes have been allowed for.[2]

Table I

Population (in millions)

	1650	*1800*	*1850*	*1900*	*1940*
Great Britain . .	6	10	21	37	46
France . . .	16	27	35	41	42
Germany . . .	14	20	35	54	70
Italy	13	17	24	32	44
U.S.A. . . .	..	5	23	75	131
Ireland . . .	1	5	6½	4½	4½

When a table of this sort is being examined, it is not the individual figures by themselves which deserve attention; it is the comparison of one figure with another. (This is why it is sufficient to work in round numbers; comparisons can be made more easily if the figures are given approximately; detail would

[1] They are taken from G. N. Clark, *The Seventeenth Century*, Ch. i.

[2] Thus Germany always excludes Austria, France always includes Alsace-Lorraine, Ireland includes Northern Ireland.

In this terminology, the factors of production are labour and capital.[1] The goods and services produced by the factors of production are partly consumed within the year (consumption), partly used to make additions to capital (investment). In order to produce these goods and services, some part of the capital possessed at the beginning of the year is used up (Depreciation[2] of Capital). The net addition to capital within the year is therefore the total production of additions to capital, with depreciation deducted. This net addition to capital is called Net Investment. Consumption *plus* Net Investment *equals* Net Output.

The definitions given in this last paragraph will become familiar enough as we go on. For the whole programme which lies before us is involved in these definitions. In the next two parts of this book we shall study the Factors of Production—Labour and Capital. In the last part we shall study the net output of the economic system; we shall discuss how it is measured, we shall examine some of the reasons for variations in its size, and we shall examine how it is divided up among different people, so that some are rich and some poor. All these things are developments of the fundamental classifications which we have been giving.

Let us then pass on to discuss the Factor of Production Labour. The first problem to be discussed under that head is the problem of Population, for although not all the people living in a country are producers, it is the total population of the country which mainly governs the number of workers who are available to take part in the process of production.

[1] Land, which nineteenth-century economics used to reckon as a third factor of production, is here included in Capital. For the justification of this arrangement, see below, Ch. VIII.

[2] The business man employs the term 'depreciation' to include the using-up of durable-use goods only. Here we use it in the wider sense, more convenient in economics, which includes the using-up of such single-use goods as are not replaced during the year in identically the same form.

TABLE II

Average rates of population increase (per thousand) per annum

	1650–1800	1800–50	1850–1900	1900–40
Great Britain . .	3	14	11	5
France . . .	3	5	3	1
Germany . .	2	11	9	7
Italy . . .	2	7	6	8
U.S.A. . . .	..	31	24	14
Ireland . .	9	5	−16	−1

The first thing which strikes one when looking at this new table is the extremely rapid rate at which the populations of nearly all the countries were expanding during the interval 1800–50. Even the French, whose rate of increase has nearly always been slow, increased faster than usual during this half-century. Ireland, which again looks like an exception, is here less of an exception than it looks; the Irish population continued to increase at a rate of 9 per thousand until 1840, but between 1840 and 1850 it started falling, as a result of the potato famine. The general impression one gets from the table as a whole is that the history of population during the last two centuries has passed through two distinct phases, during the first of which there was a great acceleration in the rate of growth of population, while during the second the brake was put on more or less violently. These are in fact the two phases which have to be explained.

Changes in population come about in two ways: by Natural Increase or Decrease (excess of births over deaths, or vice versa), and by Migration. The figures in our tables are affected by migration to an appreciable extent, but not sufficiently to disturb the general pattern. The population of the United States has been greatly increased by immigration; but the great mass of the nineteenth-century immigrants came in after 1850, so that the astounding rate of growth of American population during the early nineteenth century (31 per thousand per annum) was almost entirely a natural increase. What the im-

population of 6 millions into one of 10 millions in 150 years, we have to solve the equation $\left(1+\frac{x}{1000}\right)^{150}=\frac{10}{6}$. Take logarithms of both sides and it comes out at once.

distract the eye, without adding anything of importance.) In the table before us, at least two kinds of comparison can be made. By looking down the columns we can compare the populations of different countries at the same dates; the points which then emerge are mainly of political interest, though of very great political interest indeed. The greatness of France under Louis XIV and under Napoleon is reflected in the relatively high population of France in the 1650 and 1800 columns; the strength of Germany and the weight of the United States in the modern world are indicated in the columns for 1900 and 1940. Military strength is not entirely a matter of population, but population is an important element in it.

From the economic point of view, a study of the table by horizontal rows is more instructive. Every one of the countries in the list (with the exception of Ireland—included just because it is an exception) shows increases in population throughout the whole period; usually they show enormous increases. The increase in population which has taken place in Europe and America during the last three centuries is one of the most stupendous facts in history; it is quite probable that nothing like it had ever been seen before. But when we look at the table more closely, it becomes apparent that the increase has not proceeded at all smoothly or regularly; it has been much faster at some times and places than at others. It will be useful to examine these variations in detail.

At first sight, the simplest way of comparing the rates of increase at different stages would seem to be by calculating the percentages at which the various populations increased between 1650 and 1800, 1800 and 1850, and so on. But since the intervals between our dates are of different lengths, these percentages would be less informative than one could wish. It is better to calculate the *average* rate of increase in each of the intervals—that is to say, the annual rate of increase which, if maintained over the whole interval, would have resulted in the actual increase of population which we find. Since the annual rates of increase are of course small (many of them less than 1 per cent.), it is more convenient to express them as rates per thousand than as rates per hundred (percentages).[1]

[1] In order to calculate the annual rate of increase which would turn a

increase (that is, the rate of growth in Table II adjusted for migration) equals the difference between the birth-rate (number of births per thousand of population per annum) and the death-rate (number of deaths per thousand per annum). A high rate of natural increase must be due to a wide gap between the birth-rate and the death-rate; but the gap may be wide because the birth-rate is exceptionally high or because the death-rate is exceptionally low. An increase rate of 10 per thousand (which is enough to cause quite a rapid expansion of population) may be due to a birth-rate of 35 and a death-rate of 25, or to a birth-rate of 25 and a death-rate of 15. It seems probable (though naturally one cannot say for certain) that the more or less stable-sized populations which seem to have been the general rule before 1750 were due to a combination of high birth-rate with high death-rate—both of them in the neighbourhood of 30 per thousand, with only a narrow gap between them. The principal development which upset this primitive equilibrium was a marked fall in the death-rate, due (beyond all doubt) to the improvements in sanitation and medical skill which were beginning to be effective in the north of Europe by the middle of the eighteenth century, though they failed to exercise any appreciable influence in the more backward countries for some time after 1800.

Birth-rates and death-rates for England and Wales are set out in Chart I. By 1780 (which is as far back as it is really safe to make estimates) the English death-rate was already falling quite steeply; there is good reason to suppose that the fall began some years before that. It continued until about 1820; after that it was checked for some time (this is where the bad sanitary conditions in the new industrial towns seem to come in), but it was resumed after 1870. As a result of the whole process the death-rate has been reduced from about 30 per thousand in 1780 to about 12 per thousand in the nineteen-thirties.

The rise in the rate of population growth (our first phase) was thus mainly due to a fall in the death-rate; the slowing-up in the second phase is undoubtedly due to a fall (a much more sudden fall) in the birth-rate. As appears from the chart, the English birth-rate turned definitely downwards after 1870; in sixty years it fell from 35 per thousand to 15. The German

migrants did was to prevent the increase from slowing up as rapidly as it would have done without them. The decline in Irish population after 1840 was largely a result of emigration, but not entirely. The most significant difference which is made

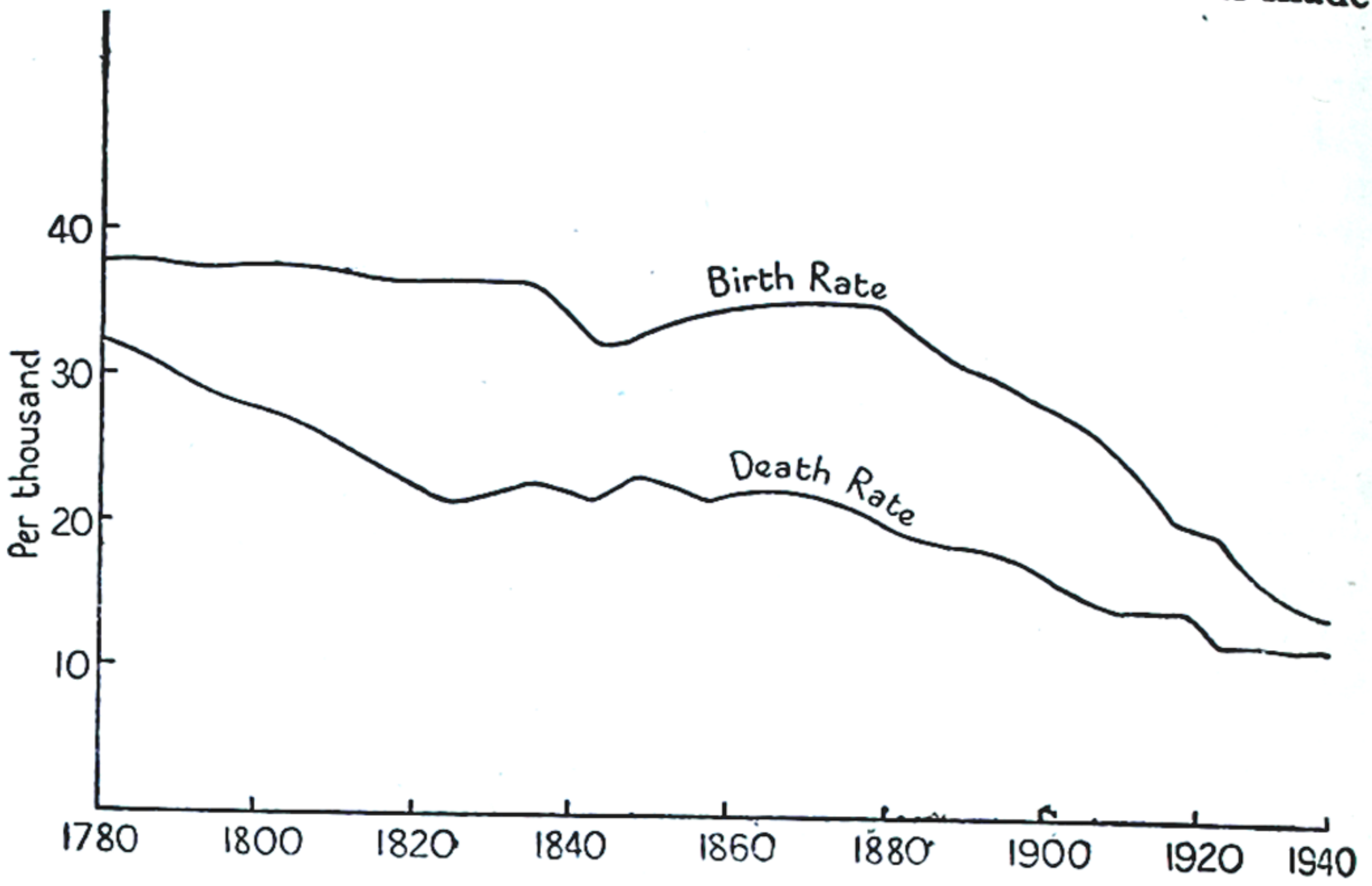


CHART I

to our figures when we allow for migration is in the case of Italy. Emigration from Italy was particularly great during the period 1880–1910; the rate of growth of Italian population shown in the last two columns of our table is therefore less than the natural increase. If one had figures for the Italian population, *whether living in Italy or not*, it is probable that the rates of growth in the successive periods would be something like 2, 7, 8, 11, instead of the 2, 7, 6, 8 of our table. The Italian rate of natural increase went on rising far into the twentieth century; it is only in very recent years that signs have begun to appear that Italy also is passing into the second phase.

Let us take the two phases in turn and inquire (1) why the rate of population increase accelerated, and (2) why it slowed up.

2. The natural increase of population takes place by an excess of births over deaths; consequently the rate of natural

The explanation which is usually given for the relatively low birth-rate in nineteenth-century France is to connect it with the system of landholding. A settled peasant population, owning its own farms, has a strong incentive to restrict the size of the family. Openings outside agriculture are limited; younger children can only be provided for by dividing the family holding—that is to say, at the expense of the elder. Consider the contrast between this situation and that in the New World. American population could increase as rapidly as it did between 1800 and 1840 because parents needed to feel no responsibility for providing careers for their children; the career provided itself—'out West'. There was nothing to stop population from expanding at a fabulous pace.

Something of the same unlimited opportunity was provided in a more sordid way by the Industrial Revolution in England. Children became wage-earners at an early age; it cost parents very little trouble to ensure that their children had as good prospects in life as the parents had had themselves—though these prospects were often poor enough in all conscience. But as the standard of living (and in particular the standards of education) improved, the responsibilities of bringing up a family increased very markedly. The first dip in the English birth-rate is suspiciously contemporaneous with the early Factory Acts, which limited the employment of children in industry. The later, and more permanent, decline follows upon the introduction of compulsory education. We cannot prove a connexion, but it would not be surprising if the additional burden on the parents, due to their having to support their children up to the age of 14, without getting much in exchange even in the way of help about the home, had a good deal to do with the decline in the birth-rate. Elementary education may be free in itself; but children cannot take advantage, even of elementary education, unless they are properly brought up by their parents; it costs money (with the improvement in standards, it costs more than it did) to bring them up properly.

The reasons for the fall in the birth-rate still have a good deal of mystery about them, but this is at least one possible explanation. It is not an ignoble explanation; it means that the quantity of the population has been endangered in the process of

birth-rate did not leave the 35 level until after 1900, but it fell very precipitously when it did decline. During the nineteen-thirties it has been usually a little below 20, the lowest point (15) having been touched at the time of the social and economic collapse in 1932. The Italian birth-rate has been falling since 1922. The tendency to a falling birth-rate is very widespread in the world we now live in; it is one of the major economic facts of the twentieth century.

3. What are the causes of this fall in the birth-rate? In spite of all the work which has been done on the subject, we do not altogether know. The explanation most commonly given is the practice of birth control, or contraception; but although the improvement in methods of birth control may explain how people *can* limit their families without undue difficulty, it does not explain why they should *want* to limit their families so very drastically. (Furthermore, it would appear that in several of the continental countries where the same fall in the birth-rate has taken place the method most frequently used is not contraception but abortion; abortion is a repulsive method, often dangerous to health, often illegal and always immoral, so that the desire for family limitation must be very strong indeed for people to adopt it.) What has to be explained is the motive, or motives, which have led to so general a recourse to family limitation; naturally that is not a thing which can easily be discovered.

It is possible, however, that some light may be thrown on the matter if we look back at the period before 1870, when contraception is not likely to have been of much importance, and when nevertheless we do find considerable variations in birth-rates. As appears from our chart, the birth-rate in England was running at 35 or over during the whole period from 1780 to 1870 (except for an appreciable dip in the eighteen-forties). This is a distinctly high rate, but even higher rates have occurred in North America, some as high as 50 per thousand. In France, on the other hand, the birth-rate ran at not much over 25 during the greater part of the nineteenth century. These variations are quite sufficient to make a large difference to the rate of population expansion; how are they to be explained?

but we do know how many females, now living, are due to pass through the child-bearing age during the next twenty years—and that has a great deal to do with the number of births.

In order to estimate the future population of England, we

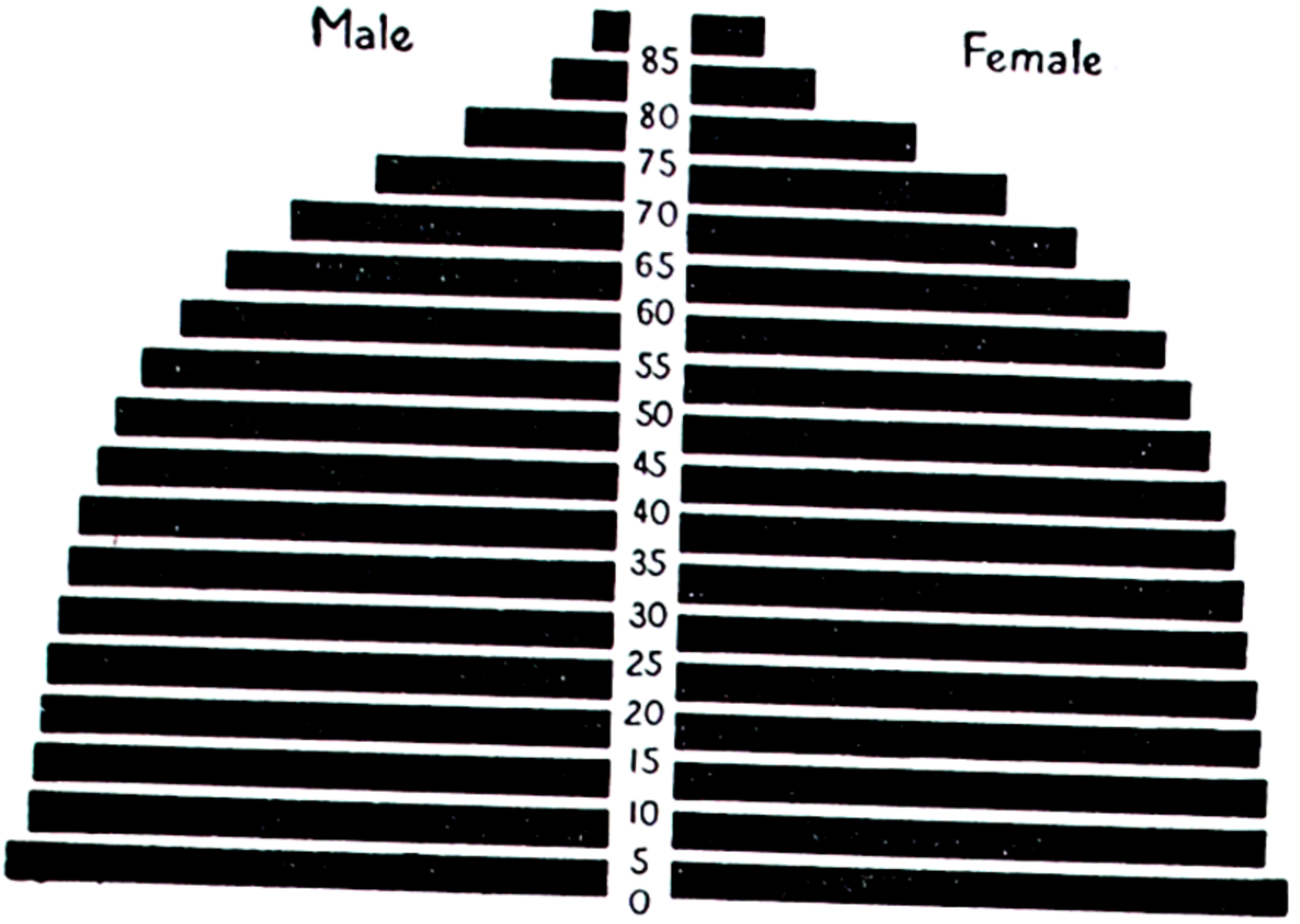


CHART II B

do not merely continue the birth-rate and death-rate curves in the same directions as they have been proceeding in the recent past (Chart I), and observe that they will probably intersect. We can do a great deal better than that, for we have additional information in the age-distribution of the present population.

The population of any country at any date can be divided into age-groups, so many ten-year-olds, so many eleven-year-olds, and so on. In a completely stationary population with no migration, where the same number of births had taken place every year for the previous seventy years, these age-groups would form a descending series, with rather fewer persons in each age-group than in the one before it (because a certain number of people die at every age). A typical age-distribution for a stationary population of this sort is shown in Chart II B.

If now this population began to increase by extra births, the

improving itsquality. That is a kind of thing which is very liable to happen in human affairs, especially economic affairs; progress on one front is accompanied by retrogression on another. This does not mean that all real progress is ultimately impossible;

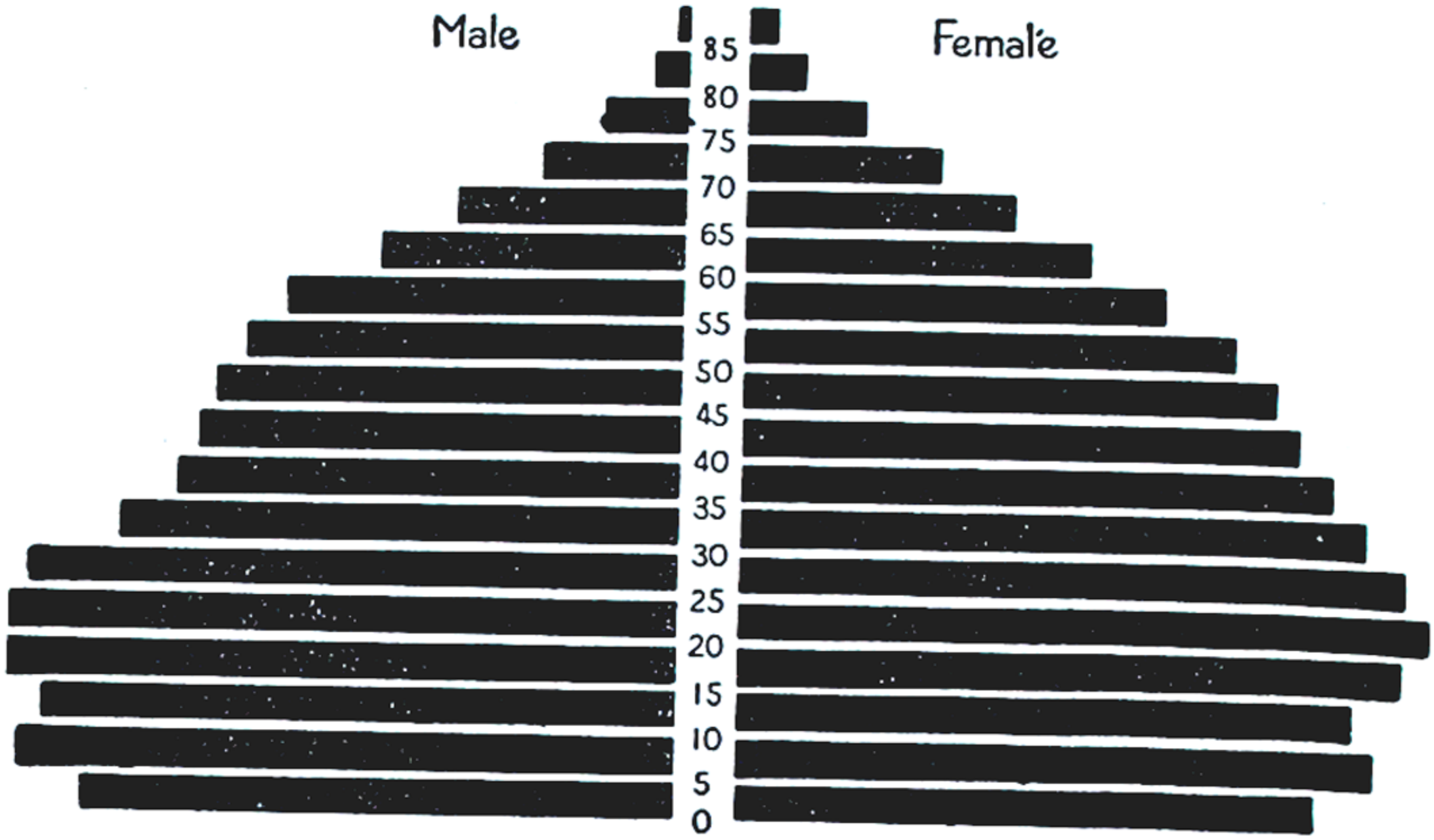


CHART II A

the line can usually be straightened out later on. In this case the line will certainly have to be straightened out, for the fall in the birth-rate has reached a point where it has become a social problem of the first magnitude. It is already possible to foresee some of the difficulties in which it is certain to involve us.

4. It is more possible to make reasonably accurate prognostications about the future in matters of population than it is in most human affairs. This is because of the simple fact that all those people who will be over 20 years of age in twenty years' time are alive now; thus (apart from immigration) we can set an upper limit to the adult population of any country twenty years hence with complete confidence. On the basis of this known fact a good deal more about that future population can be guessed, and guessed with some assurance. Thus we cannot tell how many babies will be born during the next twenty years;

as a consequence of the decline in births which has taken place already. The number of women in England and Wales aged between 20 and 40 was 6·7 millions in 1930 and 6·8 millions in 1940; it cannot be more than 6·4 millions in 1950, and in 1960 the figure is bound to be lower still.

The age-distribution of the English population is obviously in a very unstable condition. Mere efflux of time is almost certain to lead to a fall in total numbers; for with the 'small family system' to which we are at present adjusted, the population is not replacing itself. It is obvious, when one thinks of it, that if there are only two children in the normal family (and this seems to be the present position), the population must decline; for the two children only replace their parents, and there is no one to replace those who do not marry, or (for one reason or another) fail to have children. In order to prevent the population from falling, families of three or four children must be quite common—and that is hardly likely to happen unless families of five and six cease to be the extreme rarities they are to-day.

Whenever the community reverts to this larger type of family, the population will cease falling—if not at once, at least after an interval. But if the total population is to settle at a level at all near to its present figure, the change in the size of family will have to take place fairly soon. The present total population could still be retained in the long run if the change began now, and was spread over the next twenty or thirty years. But if it begins later, or proceeds more slowly than that, the population will not settle except at something lower than its present level.[1]

Would that be a bad thing? We will hold over that question to the next chapter.

[1] See the official pamphlet, Current Trends of Population in Great Britain, published in 1942 (Cmd. 6358, price 2*d*.).

new generations coming into the junior age-groups would be larger than the older generations were when they came in; consequently the beehive would begin to swell at the bottom, the lower strips growing in size relatively to the others. As time went on, this swelling would travel upwards; but if the number of births went on increasing, the numbers in the lower age-groups would still be disproportionately high relatively to those in the higher age-groups. The slope of the beehive would be distinctly flattened as compared with the stationary case, so that the beehive would be more like a regular pyramid.

Chart II A shows the actual age-distribution of the English population in 1931. The upper age-groups show this 'flattening' effect quite clearly, for they still reflect the rapid increase of population during the nineteenth century. But the fall in the birth-rate has already reduced the numbers coming into the lowest age-groups; consequently the English age-distribution is no longer a beehive or pyramid, but is bulged in the middle. More children were born per annum during the period 1880–1920 than have been born in a typical year since that time.

As time goes on, the bulge is bound to move upwards. This will have two important consequences.

In the first place, it will make for a rise in the death-rate. The people who have been dying off most rapidly in the decade 1930–40 were people who were over 60 at that time—that is, roughly speaking, people born before 1875. The people who will be over 60 in 1960 will be people who were born before 1900—and since the number of births was still rising until about 1900, there are likely to be more of these latter people. Whatever improvements are made in medical science, the death-rate is bound to rise when the bulge of the diagram passes into the Reaper's hands.

Of even more lasting importance is the effect on the birth-rate. The number of births in any decade depends upon the number of potential mothers then living, and on the average number of births from each potential mother. Consequently, even if the ordinary size of the family remains the same, the number of births will fall if the number of potential mothers is declining—as it is bound to decline for some time in the future,

satisfy its own wants by its own labour, could hardly fail to be miserably poor; for the organization of its economic system would be inevitably rudimentary and unproductive. It would be hampered by fewness of numbers in two different ways. In the first place, there might be things which would badly need doing, but could not possibly be done by a small number of workers. Such things as the building of bridges over large rivers would be physically impossible; the building of a railway between two distant places might not be impossible physically, but would be impossible practically, because it would take so long that the makers could hardly hope to live to see the fruit of their labours. But a much more important disadvantage would be the limit imposed upon specialization. The high efficiency of modern industry comes about very largely as a result of specialization; workers are specialized to particular jobs, and as a result they acquire great dexterity at those jobs; their efficiency is further increased by their use of highly specialized equipment. Very little of this specialization would be possible in a small colony with a few thousand inhabitants. It would be useless for people to specialize themselves on the sort of operations needed to produce motor-cars on a large scale if the maximum number of motor-cars which could be sold in a year was a few dozen. With so limited a market for their products, the motor-car manufacturers would spend most of their time standing idle, with the result that they would actually use their time more productively if they spent it in tilling the soil. But for the same reason the methods of cultivation used would have to be of a primitive character; modern agriculture, with its use of machinery and fertilizers, is itself dependent upon large-scale industry; tractors and binders could not be produced if only a few could be sold in a year. The same would be the case for nearly every specialized occupation one could think of; a small isolated community could only produce in unspecialized and consequently primitive ways. In the technical language of economic theory, it would be unable to take advantage of the *economies of large-scale production.*

These disadvantages of under-population are in fact experienced even to-day by small communities in out-of-the-way places, though they are greatly moderated by the opportunity

V

THE ECONOMICS OF POPULATION

1. THERE have been two episodes in the development of economic thought when economists have devoted a particular amount of their attention to the problem of population. One was at the beginning of the nineteenth century, when (as we have seen) the growth of population was proceeding at such an exceptionally rapid rate; the other has been quite recently, when the populations of most Western countries have finished, or nearly finished, their upward surge, and we are having to expect a future decline. It is not surprising that T. R. Malthus, with whose *Essay on Population* (1798) serious discussion of the population problem really begins, should have been profoundly troubled by the perils of population becoming too large, through a rise in numbers proceeding unchecked; nor that his successors at the present day should be more inclined to emphasize the opposite danger, of population becoming too small, or getting smaller. The change in emphasis is a natural result of the events described in the last chapter.

It is indeed generally accepted that there are dangers in each direction. Long before systematic economic thought began to develop these dangers were noted: 'the one part through the small number of inhabitants becometh desolate, and the other being overcharged, oppressed with poverty.'[1] The dangers of under-population (too small a population for economic efficiency) and of over-population (too large a population) are both real dangers, though they arise from different causes. The studies which have been made in the subject, both in the time of Malthus and in our own day, have enabled us to appreciate these dangers much more precisely.

2. To begin with the case of under-population. It is easy to appreciate how it is possible for a country to be under-populated if one considers the case of a small colony, with few people, and poor communications. Such a colony, obliged to

[1] Machiavelli, *History of Florence* (in Tudor Translations series, p. 70).

amount of capital equipment will have to be shared out amongst a larger number of workers; each of them, therefore, will have on the average a smaller amount of equipment to work with. Sharing specialized equipment is of course a very awkward business; it is probable that in the first instance many of the extra workers could only be taken on as 'helpers'. At a later stage, when equipment wears out and comes to be replaced, it may be possible to replace it in forms which make better use of the extra labour. But so long as it is a matter of squeezing the extra workers into a productive system which is not really any better provided with equipment, the amount of goods produced is not likely to increase in the same proportion as the labour force has increased—excepting in cases when the larger supply of labour enables new economies of exceptional importance to be derived from specialization.

This is in principle the way in which the danger of over-population arises; as population increases, its average productivity may fall, because of the lack of a similar expansion in capital equipment. But over-population will arise only if capital equipment fails to expand sufficiently. Quite apart from the question of specialization, it is often possible to overcome the shortage of equipment by increasing the supply. If this can be done, the danger of over-population disappears.

There is, however, one particular sort of capital equipment which is not capable of being increased by human agency to any appreciable extent; it is agricultural land.[1] A community which runs short of land can sometimes overcome the shortage by seizing land from its neighbours; apart from military action of that sort, very little can be done to remedy a shortage of land, though up to a point the evil can be moderated by using the land more economically, or by making improvements in its quality. So long as a country's population remains small, relatively to the size of its territory, there is not likely to be any shortage of land; there may be land of good quality which remains uncultivated. The danger of over-population arises

[1] It was for this reason that nineteenth-century economists used to reckon land as a third factor of production, alongside labour and capital, instead of regarding it as a particular kind of capital equipment, which is what we have decided to do.

of trading with the outside world. Trading enables the small community to specialize in suitable lines, even although it is unable to sell at home all it produces in these lines; for it can sell its surpluses abroad, receiving in exchange for them things which it would have been unable to produce at home, or (and this is even more important) larger quantities of things which it could have produced at home in smaller quantities if it had not sought for the advantages of employing its labour in specialized ways. Sometimes the disadvantages of a small population can be completely overcome by this means; but the cost of transporting goods to and from distant countries is sometimes too great for it to be possible to carry specialization through foreign trading very far. The costs of transporting goods from one area to another are often artificially increased by the protective policies of governments; it was for this reason that many of the small states with which Europe was littered after the Peace of Versailles were made poor by the smallness of their populations; they paid with poverty for what proved to be a very transitory independence.

3. The dangers of over-population spring from a different source. As we have seen, the greater part of production takes place by the combination of labour with capital equipment. If population increases, the factor of production labour becomes more plentiful; and this will usually enable the total amount of goods and services produced to be increased. But the increase in population also involves an increase in the wants which have to be satisfied; the extra workers have to be fed and clothed and housed, so that unless the increase in production is proportional to the increase in population, the average standard of living will fall. (That is to say, if population increases by 2 per cent., the people will be poorer *on the average*, unless total production increases by at least 2 per cent. at the same time. If production increases by less than 2 per cent., the *average productivity* of the workers is diminished by the increase in their numbers.)

It is probable that an increase in population will be attended by a fall in average productivity, if the increase in the factor of production labour is not accompanied by an increase in the factor of production capital. For if this happens, the same

Ireland experienced a series of famines, which culminated in the great famine of 1846. To-day the Irish population is only about one-tenth of the size of the English.

How was it that England avoided the danger to which Ireland succumbed? If England had been obliged to support her population entirely from her own soil, there can be little doubt that England would have experienced a similar disaster before the nineteenth century was over. In fact, in the years before improvements in ocean transport made it easy to import foodstuffs on a great scale, food in England was very scarce; the Corn Law agitation was the sign of a real scarcity, the premonitory symptom of what might have grown into a much greater calamity. As it was, the cheapening of transport made it possible for the English people to draw upon the ample supplies of agricultural land in the New Worlds of America and Australia, and so to remedy their own shortage. But how was it possible for the English people to save themselves in this way, and not possible for the Irish to do so as well?

The reason is that imports have to be paid for. If the agricultural land available in England was becoming small relatively to the population, England possessed other natural resources, in the form of coal and other minerals, which were absent in Ireland, and she was continually adding to her man-made equipment, her factories and mines, her ships and her railways. All these resources enabled her to produce a plenty of goods which she could exchange against foodstuffs from overseas. Although she was short of agricultural land, her capital equipment as a whole was continually increasing. The things which she could produce with this equipment were most of them unsuitable for satisfying the basic need for food, but that difficulty could be removed by trading with other countries. Yet she would have been unable to remove it so easily if her general productive power had not been increasing at such a rapid pace.

5. When the matter is looked at in this way, it suggests a conclusion of very wide significance. As the problem appeared to the Malthusians, shortage of agricultural land was an insuperable obstacle; when once the population of any country had reached the point where shortage of land becomes acute,

when the best land is already being intensively cultivated, so that extra food for extra mouths can only be secured by scratching at stony soils, or pushing the boundary of cultivation higher and higher up mountain-sides. The reality of such over-population (at least within certain localities) will be appreciated by anyone who has seen the congested districts of western Ireland, or watched the Italian peasant cultivating a little pocket of ground perched among cliffs in his congested area near Naples. India and China contain between them one-half of the human race; large parts of their peoples are living in abject poverty, because immense populations are concentrated in small areas, and have to feed themselves from those areas. Over-population through shortage of land is one of the great causes of the poverty there is in the world.

4. In the light of this terrible possibility, the over-population scare of the early nineteenth century becomes readily intelligible. The British population was increasing at an alarming rate, doubling itself in half a century; how (asked Malthus and his followers) would it be possible to feed so vast a population from the limited area of the island? At that time little assistance was got from imports; the shortage of land was a real nightmare. There seemed to be no way of avoiding a future in which all the luxuries and conveniences of life would have to be sacrificed to the dire necessity of getting bread; and when at last even bread might be lacking. If the rise in population continued, that was the fate which appeared to be in store sooner or later.

As we know, this fate has been avoided. The British population is now more than four times what it was in 1800, yet (excepting in war time) it is in no danger of suffering seriously from want of food. But the fact that the fears of the Malthusians were not realized does not mean that they were idle. Malthus had discerned a real peril; England avoided it, but it was not avoided in another case closely parallel to England's—in the case of Ireland.

At the time when Malthus was writing, the Irish population was half the size of the English, and it was growing at much the same rate. But in the Irish case, the growth of population began to be checked after 1820, and checked by shortage of food.

to increase its capital equipment at a rapid rate from its own resources, the danger of over-population will usually be remote. This is the position in which most 'advanced' countries have usually found themselves in the twentieth century. Once this stage has been reached, the balance of economic advantage may well be on the side of an increasing population. Quite apart from the economies of large-scale production, the increase in population affords a stimulus to investment; new houses have to be produced for the extra people to live in, new machines to make clothes and other conveniences for them, and so on. A considerable part of the labour force in such progressive countries will be specialized on the production of such investment goods; this means (paradoxically enough) that it is actually easier to maintain employment (prevent unemployment) when population is increasing. It is not impossible that slowing-up of population increase may have been one of the things responsible for the exceptional unemployment which occurred during the nineteen-thirties; this is particularly plausible in the case of the United States. The approaching decline in population is undoubtedly going to set an awkward problem of reorganization to the countries which are affected by it—not necessarily an insuperable problem, but a decidedly delicate one. Declining population may actually involve us in greater difficulties on the side of production than would arise from further increase.

Such narrowly economic considerations are of course not the only ones which have to be taken into account. Although, in the case of England, we are not seriously incommoded in peacetime by the limited amount of agricultural land available in our island, we are incommoded by pressure of population in other ways. Great Britain can only support her present population of 46 million people if at least half of those people will live in great cities, enjoying certain advantages (it is true) from being so close together, but in other ways being decidedly cramped. If the whole of our population were to attempt to live upon the standards now thought to be proper by our middle class—with gardens and golf-courses and motor-cars—would there be room for 46 million people on the island? Thoughts like these do sometimes enter the mind, but they are not what economists have meant in the past by the problem of population.

the people would be bound to suffer from poverty, poverty which could only be remedied by the population becoming smaller.[1] To-day, as a result of the improvements in transport which have taken place, the position of over-populated countries has become, potentially at least, much less desperate. Although the peoples of particular countries and particular regions do suffer from a shortage of agricultural land, the human race as a whole does not suffer in that way to any serious extent. And so long as there is plenty of agricultural land in the world as a whole, the over-population of particular areas can usually be remedied by industrialization. It does indeed sometimes happen that large populations are concentrated in regions which are very unsuitable for industrialization, owing to poorness of natural resources (not agricultural only) or bad communications; but for the most part over-population can be remedied by an increase in the amount of capital equipment—in those kinds of equipment which can be increased by human effort. That is just what industrialization implies.

However, as we have seen in our description of the productive process,[2] the way by which capital equipment is increased is by the use of some part of the community's productive power during a period for the construction of new equipment (investment). Productive power can be used either for the production of consumption goods or of investment goods. Now when the average productivity of a community is low, it will have the greatest difficulty in producing enough consumption goods to satisfy the basic necessities of life; so it will have little productive power to spare for the production of investment goods. Countries which are in this position are involved in a vicious circle. A larger supply of capital equipment would enable them to escape from the toils of over-population, but they are too deeply caught in those toils to be able to produce that equipment for themselves. Thus they cannot escape without assistance from outside. What means there are of giving them that assistance we shall consider later.[3]

Once a country has become sufficiently wealthy to be able

[1] A favourite modern version of this Malthusian argument is discussed in Appendix, Note B.

[2] Chapter III, above.

[3] See below, pp. 128–31.

tinuing their education) were almost exactly offset by the over-65's still working or seeking work. But not much more than a third of the females in the middle age-group were occupied; this is, however, quite a large proportion, for in a healthy community the majority of women have something else to do with their time than to spend it in earning their living.

Thus in 1931 the total number of occupied persons was about 21 millions. At that time nearly 3 millions of these persons were unemployed. But 1931 was an exceptionally bad year for unemployment. By 1938, when the total number occupied must have risen to over 22 millions, the number of unemployed was less than 2 millions. Even this lower figure was enough to be a very serious matter; but we shall be returning to the question of unemployment in other connexions.

2. To give a complete list of all the occupations pursued by different people in a country like Great Britain would require a volume considerably larger than the present.[1] But it may be useful if we indicate some broad groups. A little more than four-fifths of the persons given as *occupied* in the census of 1931 fall under one or other of the specific headings given in Table IV;

TABLE IV

Occupations—Great Britain (1931) (millions)

	Males	*Females*
Agricultural	1·3	..
Coal-miners	1·0	..
Building and allied occupations (including woodworking)	1·8	..
Metal workers (including makers of vehicles, ships, and electrical equipment)	1·8	..
Textiles and clothing	0·5	1·2
Transport (rail, road, shipping)	1·7	0·1
Retail and wholesale trade	1·8	0·7
Clerks and typists	0·9	0·7
Personal services (including professions)	1·0	2·5[2]
Others	3·0	1·1
	14·8	6·3

[1] The most complete list is that given in the 'Occupations' volume of the census report.

[2] Including 1·5 million domestic servants.

VI

THE SPECIALIZATION OF LABOUR

1. POPULATION is only the first of the economic problems connected with labour as a factor of production. The contribution of labour to the productive process depends in the first place on the number of workers, secondly on the kinds of work they can do, and thirdly on the effort they put into their work. We shall consider the second of these questions in the present chapter, and the third in the chapter which follows it.

We must begin, however, with a further remark about numbers. The number of persons who work, or earn their living, in a particular country is always much less than the total population. Idleness (voluntary or involuntary) is responsible for no more than a small fraction of this difference; most of it is due to age and sex. Thus at the census of 1931 the population of Great Britain was divided by age and sex in the way which is set out in the following table:

TABLE III

Population of Great Britain (1931) (millions)

	Males	*Females*
Under 14 . .	5·1	5·0
14–65 . . .	14·9	16·4
65 and over . .	1·4	1·9
	21·4	23·3

The total number of persons classified in the same census as 'occupied' (that is to say, having an occupation—'occupied' includes those who happened to be unemployed at the moment the census was taken) was 14·8 million males and 6·3 million females. Since none of those under 14 could legally be occupied, and a considerable proportion of those over 65 would not be, it is reasonable to compare these numbers with those in the middle age-groups. It will be seen that with the males the numbers nearly match; this means that the number in the 14–65 group who were not occupied (mostly because they were con-

that more people are needed to work in a particular occupation; it may then pick upon certain people and compel them to transfer themselves where it wants them to go. Under the name of conscription, the method of compulsion is widely employed in war-time; it may be the only practicable method of bringing about the immense temporary redistribution of occupations which is necessary to deal with an emergency such as modern war. Nevertheless, for normal purposes, it is distinctly less efficient than the alternative method. This alternative is to give people an incentive to transfer themselves to those occupations where the supply of labour is short. The incentive may take various forms; certain kinds of labour are attracted into the British Civil Service by the prospect of honours (such as knighthoods), while in Soviet Russia the 'shock brigades' are said to have the best chance of theatre tickets or of being sent on holidays.[1] But the simplest form of incentive is to offer higher wages in those occupations where there is a scarcity of labour; people are encouraged to look for employment in those occupations where extra labour is wanted more urgently, in preference to occupations where extra labour is wanted less urgently, because they will be offered better wages in the former occupations.

Thus the use of the incentive method makes it almost inevitable that some people should get higher wages than others; but before we allow our sense of fairness to be outraged by these differences, we ought to consider very carefully what alternative exists. As we have seen, some means of regulating the distribution of labour among occupations is absolutely necessary; no community could survive without it. The only alternative is the method of compulsion. Now the method of compulsion is itself not beyond criticism on the score of fairness; and on other grounds it is distinctly inferior. Suppose that it is decided that 1,000 additional workers are wanted for some new trade, say the manufacture of radio sets; out of all the 20 millions or so, who are working (with more or less regularity) at other occupations, which thousand is it that ought to be transferred? The ideal solution would be to find those particular 1,000 people who will at once be the most useful in the new occupation and the least useful in their old occupations, and who can also be transferred

[1] Webb, *Soviet Communism*, p. 749.

the remaining fifth, left unclassified as 'others' at the end of the table, were divided between a number of smaller trades, though a considerable proportion of them were unskilled labourers, not very firmly attached to any particular kind of occupation.

The smallness of the numbers engaged in agriculture becomes even more striking when we discover that nearly a fifth of those reckoned as agricultural workers were in fact gardeners or nurserymen. A self-contained community would have been unable to exist with so small a proportion of its labour force working on the land. The British practice of importing food-stuffs and exporting manufactured goods in exchange is reflected both in the smallness of the agricultural population and in the size of certain other groups (coal-mining, metals, textiles, and shipping in our table) which are swollen by people working to produce exports.

3. It is a matter of the first importance for the economic organization of a community that its working population should be divided among occupations in an efficient way. This means not only that there should be the right number of workers in each occupation, but also that the qualities of the workers in each occupation should be as appropriate as possible—that people having particular capabilities should be in the positions where they can make the best use of their powers. Now it is obvious that if each person worked in the occupation which he himself preferred to follow, just because he had a liking for that particular sort of work, this desirable distribution would not be reached; there would be far too many people in the more popular occupations, far too few in the unpopular ones. Some sorts of goods or services would be produced in much larger amounts than were wanted, while the supplies of others (some of which might be necessities of life) would be grievously short. The distribution of labour among occupations cannot be left to be settled according to the preference of producers alone; the desires of consumers must also be taken into account. Since every producer is also a consumer, it is to everyone's interest that such an adjustment should be made.

There are two known methods of making the adjustment. One is the method of compulsion. The government may decide

employment on those conditions. There is thus no possibility of people being selected who would be involved in exceptional hardship by having to work at this job rather than at some other job which is open to them; such people will not apply. Nor is there much danger of people applying who are essential workers at other occupations; for if a worker who was really essential in his old job sought to change his occupation, his old employer would probably raise his wages, so as to make it worth his while to remain. It may indeed sometimes happen that a worker possesses some exceptional skill which makes both employers want him very badly; in that case he may be enticed away by the new employer offering even higher wages than the old employer would be prepared to offer. But if the new employer can only get this particular man by offering him exceptionally high wages, he has a strong inducement to do without him, if he can find any means of doing so; the method of incentive does give him an inducement to weigh up the urgency of his need against the need of the other employer, and not to take on a worker who is specially useful elsewhere unless he is also very specially useful in the new occupation.

The method of incentive has these advantages; if we consider how continually adjustments of this sort require to be made in a modern community, we shall appreciate how important these advantages are. Yet we must never forget that the use of the incentive method does involve inequality of incomes; it means that those people whose abilities are more urgently demanded will earn higher wages than those whose abilities are less urgently demanded. People who have no kind of ability which is at all scarce will earn relatively low wages; sometimes the wages they would earn would be so low that the public conscience is revolted by the idea of allowing them to work on those terms—if indeed they could earn enough to keep body and soul together. For this and other reasons, modern communities rarely allow the incentive method of distributing labour to operate unchecked and without qualification; minimum wages are fixed in certain occupations, and unemployment pay is given to people who cannot secure work at these minimum wages. There is often a very good case for making such arrangements; but when they are made they set obstacles in the way of adjusting the

from one occupation to the other at least trouble to themselves. These three tests (it should be observed that they are distinct and different tests) will not always be satisfied by the same people; yet clearly there will be some people who will satisfy the tests reasonably well, and some who will satisfy them very badly indeed. Clearly it is desirable that the people who are to be transferred should satisfy the tests reasonably well—but how are such people to be discovered? If the method of compulsion is used without any adequate system of selection, then although the numbers transferred may be right, the choice of the particular people to be transferred will often be unsatisfactory. People will be transferred who would have been more useful at their old occupation, and also people for whom the transference involves exceptional hardship.[1] A means of selection is needed which will reduce the danger of these sorts of waste.

4. The great advantage of the incentive method is that it contains a means of selection within itself. When our employer in the radio industry is looking for his 1,000 workers, he estimates first of all what wages will be necessary to attract 1,000 suitable people. The rates offered will of course have to be high enough to attract a good many more than 1,000 persons altogether; the suitable people will have to be picked out of a longer list. But this is the only part of the work of selection which has to be performed by the radio manufacturer himself and by his managers; all they have to do is to select, out of the applicants who present themselves, those who seem best fitted to do the work which is to be done. Of course even this is not an easy job; but it is a job which people who are themselves specialized in the management of that particular kind of work will be specially competent to perform. They do not have to pay any attention to the other side of the selection; for the only people who will put in an application for work at a stated level of wages are people who consider that they will benefit themselves by getting

[1] When the method of compulsion is used in war-time this sort of thing does of course happen; various more or less adequate devices have to be introduced in order to mitigate its consequences. Even so, these effects of compulsion are only tolerable because of the overmastering necessity of the tasks to which the labour is being transferred; they would be less tolerable in cases of less urgency.

done towards the necessary adjustment by transferring workers directly from mining to motor manufacture (the sorts of skill which were needed were too different); but workers were drawn into the motor trade from neighbouring industries, workers who did possess kinds of skill more or less similar; these in their turn were replaced by others, and so, by a long process of shifting round, the supply of labour was fitted to the demand, the incentive to transference operating, in spite of specialization. Economic history is full of transformations such as this; they involve apparent wastage of what looks like valuable skill, but economic progress could hardly take place without them.

When the number of workers requiring to be transferred from one occupation to another is relatively small, the adjustment can usually be made in a smoother and simpler manner. The people who are working in any occupation at any time will include beginners, as well as experienced workers; if it is only necessary for the beginners to move, a smaller amount of acquired skill has to be sacrificed. A smaller incentive will often be sufficient to induce beginners to move, than will be needed if mature workers have to be uprooted. It is by influencing the decisions of beginners, and of new entrants to industry, that the most convenient way of adjusting the supply of trained labour to the demand for it is to be found.

When a boy is deciding what occupation to take up, he is bound to be influenced to a considerable extent by the sort of natural abilities he possesses (we most of us know very well that there are occupations we should never make a hand at, even in the most favourable circumstances); but in most cases he will also be influenced (or his parents will see that he is influenced) by the 'prospects' offered by the possible occupations—which 'prospect' is not only a matter of the wage which is offered at the moment, but is also concerned with the assurance of better wages when the job has been fully learned, and with the assurance of regular employment. These things are more likely to be secured in a trade where the demand for labour is expanding than in one where it is contracting; consequently careful decisions made on this basis do have the effect of directing labour towards those occupations where extra workers are most wanted.

There is, however, one other thing which has to be taken into

supply of labour between occupations in accordance with those ideal standards we have been laying down. And departure from these standards does mean a loss in efficiency.

5. The differences in individual skill, which are mainly responsible for the differences in wages we have been discussing, come about in three ways—from differences in natural ability, in training, and in experience. A man can only be made into a first-class doctor or a first-class engineer if he has natural gifts for that sort of work, and if he has been properly trained; but even then he will only be able to use his gifts and his training to the best advantage when he has had experience in using them. Both training and experience take time to acquire, shorter and longer times in different occupations; in 'semi-skilled' jobs a worker can become proficient in a few months, while in professional and administrative work even those people who have the best natural endowments may not reach the height of their powers save after years of training and longer years of practice.

When a man's skill has been built up by years of training or experience, it is probable that he will be very much better at doing the work for which he has been trained, or which he has learned by practice, than he will be for doing any other sort of work; unless he is given a very strong inducement to the contrary, the work to which he is accustomed is the work he will prefer to do. At any particular time a large part of the working population is specialized in this way on particular jobs; for these people (so it might appear) the problem of distributing them into the right occupations hardly arises. But that is not altogether so, since the number of people who are specialized in a particular occupation at a particular time may be greater or less than the number wanted. In England, during the nineteen-twenties, there were too many coal-miners; as a result of the invention of more economical methods of using coal (by converting it into electricity, and so on) less coal was needed than before, and consequently fewer miners were needed. But while the coal industry was contracting somewhat, other industries were expanding; as a result of the improvements in motor-car manufacture, for example, more workers were needed in the motor industry than at any previous time. Not much could be

what has been said here. A large part of that more advanced part of economics which is called the Theory of Value is taken up with the closer analysis of issues such as those we have been raising. But although we shall have to return to such issues now and again, a systematic study of the Theory of Value lies outside the scope of this book.

account. The occupations which offer the best 'prospects' are usually occupations which require a long training; it is not surprising that this should be so, since most of the highest degrees of skill can only be acquired by the combination of long training with natural ability, and the necessity of a long period of training is itself a reason why the supply of such kinds of labour should be scarce. As things were until a few years ago, the opportunity of undergoing the longer periods of education and training was only open to the children of wealthy parents—and this limitation made the supply of such trained labour even scarcer than it would have been otherwise. During the last twenty or thirty years a good deal has been done in England (by scholarships and other grants) to widen these opportunities. As a result, it has probably become less common for people to possess exceptional abilities, but to be prevented from making use of those abilities by lack of training. But it is still the case that the supply of persons with exceptional natural abilities is less than what is needed for the more skilled and responsible occupations; so that the gaps have to be made up by people whose skill is mainly derived from the training they have received, or from mere experience in holding positions which they have gained through the influence possessed by their friends or relatives, rather than because of any particular qualifications they possessed themselves. And it is still the case that the children of poorer parents are handicapped by their inability to content themselves with low earnings while they acquire experience; they will prefer an occupation which yields a moderate income quickly to one which starts lower, but may yield a much higher income later on. (It is this which pushes the children of the very poor into blind-alley occupations; and the same thing closes professions like the bar to most of those whose parents come from the middle class.) It is in those directions that the most serious inequalities of opportunity still exist in our society; but to achieve a greater equality in these respects will not be an easy matter.

6. The questions which we have been discussing in this chapter are obviously controversial; they are also difficult, and it is not pretended that they are by any means exhausted by

even when there is in reality nothing more to be gained in that direction; but it is unlikely that mistakes of this sort are often made when pressure is less extreme.

The number of hours actually worked in normal conditions is usually appreciably less than the number which would give the maximum output. For this there is a very good reason. When the working day is at its most productive length the fatigue which is imposed upon the worker is already nearly sufficient to cause a reduction in his output; it must therefore be already very considerable. It is not surprising that from their own point of view most workers would prefer to work rather shorter hours than this, and that they are even prepared to make some sacrifice in wages in order to get shorter hours.

There has in fact been a notable shortening of the working week in most industrial countries during the last hundred years. During the eighteen-forties and fifties it was the Ten Hour Day which was the objective of labour pressure; by the time of the last war it was the Eight Hour Day; by the nineteen-thirties, the Eight Hour Day having been widely secured, the objective had moved on to the Forty Hour Week. It seems highly probable that the main explanation of this long-continued tendency towards shorter hours is to be found in the general rise in the standard of living which has taken place, more or less rapidly, over the whole period. As wages rise, people become prepared to make some sacrifice in wages in order to get a little more time in which to enjoy the fruits of their labour. An increased supply of amenities, and even luxuries, can give little satisfaction if there is a shortage of time in which to enjoy them. Time and again, as the process of rising standards goes on, a further shortening of the working week becomes a thing which is even more urgently desired than a further rise in wages.

It is clear, on the other hand, that the conditions in which most industrial workers have to work are such as to make long hours particularly tiresome and trying. Those fortunate people whose work admits of much variety are not likely to mind very much how long they work; the only disadvantage which they get from working long hours is physical weariness. But when a man's work is very uniform and monotonous, his desire to have less of it may be very strong. It is not impossible that as people

VII

THE EFFORT OF LABOUR

1. We have now discussed the numbers of the working population and their skill; one further element in the contribution made by labour to the productive process remains to be dealt with—the effort which people put into their work. This is partly a question of the Hours of Labour, the proportion of their time which people spend in working; partly it is a question of effort in the narrower sense, of the energy and attention with which people work during their working hours. There are several economic questions which fall under each of these heads, questions which are particularly interesting from the standpoints of Industrial Relations and Labour Management. Only a few of them can be indicated very briefly here.

2. It is usually the case that people will produce more if they work harder, but this does not mean that they will necessarily produce more if they work longer hours. After a certain point, the additional fatigue diminishes output. For any particular kind of work there will be a certain length of working day from which a greater output can be secured than from any other length. If the number of hours worked is less than this critical number, production will be cut down because the workers have less time to work in; if it is greater, production will also suffer, because the additional time is offset by the fatigue.

The possibility that the working day may be too long for efficiency of production was demonstrated in a fairly unmistakable manner at the time of the early Factory Acts; it is a lesson which continues to impress the modern student of economic history, as it impressed Karl Marx.[1] The modern industrialist rarely makes any mistake about the matter, except under the pressure of a sudden emergency. It does occasionally happen in war-time that those who are responsible for the direction of industry are unable to resist the temptation of endeavouring to increase production by lengthening hours,

[1] Marx, *Capital*, vol. i, ch. 10.

point of view of production, so he will often (though not always) prefer to work during his working time with less intensity than his employer might desire. There is a real conflict here, which inevitably causes trouble, though we can see (when we look at the matter fairly) that it is not in the least discreditable to either party; it is a conflict more difficult to deal with than the parallel question about hours. For it is possible to make an agreement about hours, and to stick to that agreement over long periods; but the effort which a man puts into his work is liable to vary, even from day to day, for all sorts of personal reasons, so that it is much more difficult to come to an agreement about it. The resulting situation can be dealt with, more or less satisfactorily, in one or other of the following ways.

The best way is to awaken the worker's interest in his work to such an extent that the conflict of interests is reduced to a minimum. We have seen that when a man is interested in his work, and feels a responsibility towards it, he is not likely to mind very much how long he works; similarly he will not mind how much trouble he takes when he is working. A good employer may be very successful in awakening such a sense of responsibility, though usually he will only do so if he himself takes a good deal of trouble in watching over the welfare of his employees. Nevertheless, the success with which this policy is likely to be attended depends very much upon the character of the work which is to be done; even the best employer will rarely succeed in arousing much interest when the work to be done is dull and monotonous.

The next best solution—in the case of repetitive work it is usually the best solution open—is to establish a connexion between the intensity of work and the wages paid. This is called Payment by Results. The simplest form of payment by results is piece-work, according to which the worker is paid so much for each unit of the product which he turns out. The drawback to simple piece-work is that the amount of product turned out does not always measure the intensity of work very satisfactorily; quality may be important as well as quantity; a man's output may go up or down for reasons outside his own control; one man's output may be larger than another's, simply because of a difference in the equipment they are using. The

have become better educated, the irksomeness of factory labour has increased.

However this may be, there can be no doubt that the shortening of hours which has taken place during the last century (with some temporary set-backs during war emergencies) has been a great gain to labour; it is a gain which needs to be taken into account when measuring the economic progress achieved. The quantity of goods and services produced is not a sufficient measure of economic progress; if the same quantity of goods can be produced with a smaller expenditure of undesired effort, people will on the average be better off. Sometimes, even if there is a decline in the quantity of goods produced, the decline may be offset by a gain in leisure.

Instances of this sort do in fact occur. In 1919, at the end of the last war, there was in most British industries a rather sudden reduction in the length of the working week, a reduction which generally proved to be lasting. (The typical change was from a working week of about 52 hours before 1914 to one of about 47 hours after 1919.) This reduction has to be taken into account when we are assessing the effect of the war upon the productivity of British industry. When we find, as we do find,[1] that the quantity of goods produced per head was in all probability just a shade lower in 1924 than it was in 1911, we must not conclude that productivity was really any lower at the later date. If there was any decline in the amount produced, it was certainly less than what might have been expected from the reduction in hours. Economic progress had taken place, in spite of the war; but during those particular years the gain from economic progress had been deliberately taken out in the form of increased leisure.

3. Much the same fundamental issues as arise in connexion with the length of the working day arise also in connexion with the effort and application of labour during working hours; but the form which they take in practice is somewhat different. Just as the worker, looking (quite properly) at the strain which is imposed upon him, will usually prefer to work for rather shorter hours than those which would best suit his employer from the

[1] Bowley and Stamp, *The National Income 1924*, pp. 56–8.

PART III

THE FACTORS OF PRODUCTION—CAPITAL

VIII

CAPITAL GOODS AND THEIR VARIETIES

1. CAPITAL, as we saw when we were making our earlier study of the Productive Process, consists of all those goods, existing at a particular time, which can be used in any way so as to satisfy wants during the subsequent period. Some of these goods are consumers' goods, which can be used to satisfy consumers' wants directly; some of them are producers' goods, which co-operate with labour to produce further goods and services. When we are studying capital as a factor of production, it is mainly the producers' goods which interest us; in the present chapter and in that which follows it we shall concentrate most of our attention upon producers' capital.

So far we have divided producers' capital goods into two classes—durable-use goods and single-use goods. We shall now proceed to make a further subdivision. The purpose of this further classification is in part to improve our understanding of the nature of capital; but at the same time we shall find that it throws a good deal of light upon one of the most important of practical economic questions—on the causes of unemployment. Unemployment is of course itself a problem of labour; but the causes of unemployment have more to do with the Factor of Production Capital than with the Factor of Production Labour. Most of what can be said about the causes of unemployment within the framework of an introductory volume such as this will be found in the present chapter.

2. Durable-use producers' goods have generally been divided by economists into two classes, called (1) Land, (2) Fixed Capital. Land includes agricultural land and urban land (used for building sites and similar purposes); it also includes mines. Fixed capital includes buildings, machines, tools, transport

methods of payment by results which are adopted in practice have often to be adjusted so as to allow for these discrepancies; in the process of adjustment they may become very complicated indeed. Now complication is itself a disadvantage; complicated methods are liable to rouse the suspicions of workers, who feel that they may be cheated by them; while it is not unknown for both employers and workers to be cheated in these mazes, the system adopted having characteristics which damage the interests of both parties! The more complicated a system of payment by results has to become, the less satisfactory (in most cases) it is; but the simpler systems will not fit the technique of production in more than a certain number of occupations without causing unfairness.[1] There is thus a limit to the number of cases where the method of payment by results can be conveniently applied.

If neither of these two solutions is open—if the work to be done is in its nature uninteresting, and yet it is unsuited for payment by results—then there may be nothing for it but to pay the worker by time (at a fixed rate per hour or per day, irrespective of output), and to bridge over the conflict of interests by the supervision of foremen or other managers. Obviously this method is less satisfactory than either of the others; it is only too likely to degenerate into petty tyranny, and it depends too much upon the sanction of dismissal. But there remains a considerable range of occupations (in the field of unskilled labour, for example) where no better incentive has been devised. It is highly desirable that this range should be narrowed; the best way to narrow it is by making improvements in the other methods, so that their application can be extended. The science which has particularly concerned itself with these improvements is Industrial Psychology; but the problem needs to be approached from the standpoint of economics as well as of psychology, if the happiest results are to be attained.

[1] Another difficulty which besets the system of payment by results is the necessity of making an adjustment in rates of pay whenever the method of production, or the character of the product, changes. It may well take some negotiation to establish a rate which is accepted as being fair to both parties; in industries where technical changes occur frequently, there may be no time for such negotiations, and the feeling of unfairness which arises in consequence makes the system work badly.

The rich soil of Burgundy, on which the famous French wines are produced, is said by some of the best authorities to have been literally compounded out of the debris left by two thousand years of vine-growing.[1] But for purposes of economic discussion, it is doubtful whether such historical questions as these need to be raised at all. However the soil of England came into existence in the past, it is not possible to produce any more of it in the present; the most that can be done is to make improvements in its quality to a limited extent. Thus we may agree that in the economic sense it is land. The important thing about fixed capital, on the other hand, is that it is capable of being increased by human effort at the present time.

There is another distinction which is sometimes confused with that we have just been making; although it divides the whole class of durable-use producers' goods in a rather similar way, it is really not the same distinction at all. There are some durable-use goods which wear out as they are used; there are some which do not. Most of the goods which do not wear out are such as we have previously classified as land; most of those which do wear out are fixed capital. Yet the two distinctions do not exactly correspond, as can be seen at once from the case of mines. Mines are a gift of nature, yet they undoubtedly give out after they have been worked for a certain time.

Here again we must be careful not to push the distinction too far. In a phrase which has become more famous than its author would probably have desired, the great economist Ricardo described land, in its economic sense, as 'the original and indestructible powers of the soil'.[2] If land is a free gift of nature, its powers are presumably original; but there are many parts of the world where farmers have learned from bitter experience that the powers of agricultural land are by no means indestructible. If the fertility of land is to be maintained, it requires to be cultivated in a suitable way; and the finding of a way to 'put back into the soil what you have taken out of it' may not be an easy matter. The word 'indestructible' was a bad

[1] 'C'est en fin de compte, non les vertus du minéral, mais les rudes labeurs humains, les misères et les peines de multiples générations de vignerons, qui ont fait, de ces sols ingrats entre tous, des terres de choix, de nobles crus, des lieux élus.' (G. Roupnel, *Histoire de la Campagne Française*, p. 249.)

[2] *Principles of Political Economy and Taxation* (1817), ch. 2.

equipment, and so on.[1] The distinction between these two varieties of producers' goods received a great deal of attention from nineteenth-century economists, who used to mark their sense of its importance by classifying land as a separate factor of production, instead of treating it as a particular species of capital, which is the more modern practice followed here. All are agreed, however, that there is a distinction between land and fixed capital; what is the exact basis of the distinction?

Broadly speaking, we may say that land (in its economic sense) consists of all those durable-use goods which are given by nature;[2] fixed capital consists of those which are made by man. There are some kinds of durable-use equipment whose supply can be readily increased, if we so desire, by the production of new units; these are called Fixed Capital. There are other kinds which are inherited from the past, but their supply cannot be readily increased if we want more of them; these we call Land.

It is not necessary to suppose that we could mark off, at all precisely, out of the whole equipment of a community existing at any particular time, just which items ought to be reckoned as land and which as fixed capital. Certainly if we attempted to do so by inquiring into the ultimate origin of each particular piece of equipment we should raise some awkward historical questions, and should often be hard put to it to say what was man-made and what not. The agricultural land of England is presumably, for the most part, a free gift of nature; yet how much does it not owe to the improvements which have been made in it by successive generations of farmers, to the hedging and ditching carried out in the eighteenth century, and even to the clearing-away of the primitive forest by the ancient Mercians?

[1] Thus fixed capital does not mean fixed in location. The term is rather a curious one, having been borrowed by economists from accounting practice. Accountants, who have to look at economic problems from the point of view of an individual firm, think of the firm's 'capital' as the sum of money at its disposal. (We shall see in the next chapter how this fits in with the economic conception.) If a part of this money is spent upon durable-use equipment, it becomes 'fixed' for a long period—in contrast with money spent in purchasing materials, which is released again as soon as the materials are sold; thus the materials get the name 'circulating capital'.

[2] It should be noticed that land includes some consumers' capital, as well as producers' capital. If land is used for gardens, or parks, or sites for dwelling-houses, it is a consumers' good.

these two functions fit together. A certain community possesses, let us suppose, 1,000 ships; and let us say that a ship lasts, on the average, about twenty years. Then it would be possible, in completely steady conditions, to keep 1,000 ships constantly available by producing a steady output of 50 ships per year. Every year 50 ships would wear out, and every year there would be a new 50 ships coming forward to replace them. In twenty years the whole fleet would have been replaced—which is just the time it would take to wear out and to need replacing.

Now suppose that the community ceases to be contented with this constant number of 1,000 ships; in order to cope with the demands of an increasing population or of an expanding trade, the number of ships needed begins to expand at an even rate—say 3 per cent. per annum. In order to have 1,030 ships in the second year, the number of new ships produced must be raised from 50 to 80. If 80 ships were produced every year, the total number of ships available would go on increasing in a regular manner.

This is more like the situation as it has usually existed in the actual world; but it should be observed that steadiness in the output of the shipbuilding industry now depends upon the expansion of the total demand for ships proceeding at a steady rate. And steadiness in the *rate of expansion* is obviously very difficult to attain. Population itself has not expanded at all steadily, though it has (up to the present) gone on expanding; but there are other things to be taken into account which are even less reliable. Inventions and changes in wants cause sudden accelerations and retardations in the demand for particular sorts of fixed capital; political changes (particularly wars and their consequences) are even more disturbing. Even when economic progress is continuing without serious intermission, the rate of progress is liable to be speeded up or slowed down for all sorts of reasons.

Even when these changes in the rate of progress are themselves quite moderate, they will have a considerable effect upon the activity of the constructional trades. We have seen that with 80 ships produced every year, the numbers of ships available would go on increasing from 1,000 to 1,030 and 1,060 and so on. Now suppose that in the second year the number of ships needed was a little larger than this; for the number of

one; it is, however, characteristic of agricultural land that it can usually be cultivated in such a way that it does not deteriorate. If it is properly looked after, the land will be just as good in fifty or a hundred years' time as it is now.

The opposite is clearly true with many sorts of fixed capital. However well they are looked after, they are unlikely to be usable for more than a certain length of time; besides, they are liable to accidents, which may cut them off when they are relatively new. The necessity for replacement can often be postponed by making repairs; but when repairs have to pass a certain point, it will often be simpler to replace the article altogether. In any case, repairs are often nothing else but replacements of individual parts.

It has become clear that the distinctions we have been trying to draw in the field of durable-use producers' goods are not easy to define very precisely. But they do enable us to distinguish an important class of durable-use producers' goods, which are such that a proportion of the existing supply must be expected to wear out every year, and which are also such that new units can be produced, as additions to the total supply, or as replacements for those which have worn out. Modern society is dependent upon the existence of such goods, but it is just this dependence which makes it so difficult to keep the economic system running smoothly. Let us see how that is.

3. The trades which are specialized upon the production of new fixed capital goods are called the constructional trades. Most of their workers are to be found in those groups which we labelled 'Building and allied occupations' and 'Metal workers' in the table on p. 59 above. It will be seen from that table that out of the 20 millions or so of the British working population, about $3\frac{1}{2}$ millions were specialized to these occupational groups. That gives us a rough idea of the relative importance of the constructional trades. A similar figure (say 10–15 per cent. of the total) would be characteristic of several other industrial countries.

The constructional trades have the double task of constructing new fixed capital and of replacing old fixed capital when it wears out. Let us take a numerical example in order to see how

disease is infectious; some trades get the infection first, others catch it from them; the trades from which the infection originates are usually (though not always) the constructional trades.

The mechanism by which the unemployment virus is passed on is a very simple one. The incomes which most people spend are the incomes which they earn by working; if fewer people are working, there are fewer incomes to be spent, and fewer goods can be sold. Since fewer goods can be sold, fewer people are needed to make those goods, so that fewer people can be employed in those industries. This mechanism is not the fundamental cause of unemployment; it is the way unemployment spreads from one trade to another.

The spreading of unemployment is not impeded by national frontiers. Most people spend some of their earnings upon imported goods; when they have less to spend, they will buy smaller amounts of imported goods as well as of other goods, and that will affect the foreign producers of these goods, causing unemployment in the countries where the foreign producers live. Even if the goods which are bought appear to be produced at home, they will often include some materials imported from abroad; thus if home production is slowed up, fewer materials will be imported, and this again leads to unemployment among the foreign producers of those materials. If we look at the matter from the point of view of these foreign producers, we can see how it will often happen that the unemployment infection may come into a particular nation from outside; so far as that particular nation is concerned, it is not its constructional trades which are primarily hit, but its export trades. Something of that kind has frequently been our experience in Great Britain.[1]

Most of these difficulties would be overcome if a means could be found for scotching the trouble at its source by achiev-

[1] At the time of the great unemployment in 1930–2 it was the experience of nearly all countries that their export trades were some of the worst sufferers. This was a direct result of the protective policies so generally introduced. The government of each nation, finding that its people had less to spend, and that unemployment was therefore increasing among them, did all it could to induce them to economize on imports, rather than on goods produced at home; the result was to push the unemployment off on to foreigners, on to the exporting industries of foreign countries. With almost all countries behaving in this way, the exporting industries of all alike suffered.

ships needed to be 1,050 instead of 1,030 would not imply any great disturbance in the demand for shipping. But if 1,050 ships were to be made available in that year, the number of ships produced would have to be 100 instead of 80. If in the third year no more than the normal 1,060 were needed, the number of ships produced in that year would only be 60 (10 as an addition to the total supply, and the usual 50 replacements). This means that if there were enough people specialized to shipbuilding to be able to produce 100 ships in the rush year, in the year after 40 per cent. of them would be unemployed.

Nor is this all. We have so far been assuming that the existing supply of ships can be relied upon to wear out at a regular rate. If anything were to happen (as for example a war) which caused them to wear out, or to be destroyed, more rapidly than usual, the demand for new ships would probably be further disturbed. There is also a more subtle reason why the rate of wearing-out may not be regular. If there have in the past been irregularities in the rate of production of ships, so that an abnormally large proportion of the existing ships were built in certain particular past years, the wearing-out of these ships is likely to be 'bunched'. (It is just the same problem as with the age-distribution of a human population; if the age-distribution of the existing ships is bunched, just as the present age-distribution of the British population is bunched, abnormally large numbers of ships will be ready for replacement in those particular years when the bunched ships are most rapidly wearing out.) We can now see a good many reasons why it is so difficult to maintain an even demand for the products of the constructional trades; and we can see that fluctuations in this demand are very likely to result in unemployment.

4. There is no doubt that, as a matter of experience, the constructional trades do suffer from unemployment particularly badly. But the unemployment which arises out of the instability of the constructional trades does not affect the constructional trades only; it spreads to other industries as well. For when the constructional trades are slack, the people working in them have less to spend; and the result is a slackening in the demand for the products of other industries too. The unemployment

If the wants of consumers never changed, but remained the same from day to day and from year to year, and if the outputs of goods never changed, it would be unnecessary for businesses to keep reserve stocks to any important extent. But since a manufacturer is often ignorant of the exact form which the next order coming to him will take, and since he usually needs rather different materials (different qualities, for instance) for dealing with different sorts of orders, he will need to keep stocks on hand, so as to be able to deal quickly with the orders that come in. (Alternatively, the stocks may be kept, not by manufacturers themselves, but by merchants, who are ready to sell without delay to any manufacturer who needs a supply.) It is a very delicate problem of business management to decide what amount of stocks need to be held for this purpose. If more stocks are held, orders can be fulfilled more quickly; it is a good thing for a firm's reputation to fulfil orders quickly, for by doing so it satisfies the consumer's wants better; but the holding of large stocks is very expensive. One of the easiest ways of economizing may be to let your stocks run down.

Let us suppose that in a certain industry manufacturers (or merchants) are in the habit of keeping stocks of materials equal to the amount which is normally used in production during a period of three months. They may keep this stock by them for long periods, or they may 'turn over their stock'—that is to say, every month they take one month's supply from their stock, and replace it by the same quantity newly supplied by the raw-material producers. So long as this continued there would be no dislocation. But now suppose that these manufacturers decided to content themselves with smaller stocks, and that from now on two months' supply would be sufficient. In the month when this happened, they would take the usual amount from their stocks, but they would not give the usual order to replace what they had taken. During that month the demand for the raw material would be interrupted, although after the interruption it would continue as usual.

This sort of dislocation is worth considering, because it shows us that changes in the demand for the products of raw-material producing industries do not necessarily correspond at all exactly with changes in the purchasing of the ultimate

ing greater regularity in the output of the constructional trades. There are various ways in which this could be done—by replacing equipment at times when trade is slack, instead of at the time when it is technically most convenient to replace it, and so on. It is in this direction, far more than in any other, that the economic systems of modern communities are in need of centralized 'planning'; but planning a steady output of fixed capital goods can never be an easy matter. (In practice, it is always bound to be complicated by political considerations; a great many of the constructional trades are capable of being turned over to armament manufacture, so that governments have an interest in them which is different from the economic interest, and may clash with it.) These are some of the fundamental problems of the modern world.

5. Our classification of durable-use producers' goods has taken us far afield; let us now see where we shall be led by the single-use goods. The distinction we have to make among single-use goods is also concerned with problems of the regularity of output; but naturally it takes a different form. The single-use goods in the hands of producers at any particular time are partly goods actually undergoing production—'goods in process'—and goods being handed on from one stage of production to another. These we call *Working Capital.*[1] Partly they are stocks of materials which are not undergoing production at the moment, though they have been produced previously, and are expected to be used in further production later on; these we call *Stocks*, or Reserve Stocks.[2] We may think of working capital as symbolizing the regularity with which the greater part of the productive process does go on all the time, in spite of the ups and downs we have been discussing; but when we come to reserve stocks we encounter some new sorts of irregularity.

[1] The older name was *Circulating Capital* (see above, p. 74, note).

[2] The word *Stock* is listed in the *Oxford Dictionary* as having fifty-eight distinct meanings; quite a number of these meanings are of economic importance. (We shall encounter another one in the next chapter.) The Americans are therefore very wise to use another word (Inventories) for Reserve Stocks; but Inventories has another meaning in England, so we get no advantage from following them.

a perishable one, there may be nothing for it but to destroy the surplus; thus when there is an overproduction of fruit, the surplus has to be left on the trees, because the labour needed to convey it to market is not available. If the commodity could be stored very easily, it would be possible to hold over the surplus supply for a long period, releasing it very slowly in small quantities, so that little disturbance would be created as it was sold. Between these two extremes is the common case when the commodity can be stored, but storage is expensive; stocks can then be held over, but anyone holding a stock will desire to dispose of it as soon as he conveniently can. In this case there will generally be a period of two or three years after the surplus first occurred, during which it is being disposed of; and during those years the demand for new supplies will be less than normal, since the wants of consumers are being satisfied to a considerable extent out of the surplus stocks. Thus these years are bound to be years of unemployment or underemployment for the producers. It is not surprising that in some such cases (as in the famous case of Brazilian coffee after 1931) the producers should prefer to adopt the solution which would have to be adopted in the case of a perishable commodity —that is, to destroy the surplus! For by so doing they escape the awkward process of digesting surplus stocks, which would otherwise hang over them for some time.[1]

The problems which we have studied in this chapter are very difficult problems; there is much more to be said about them than we have been able to say here. But further discussion of them would soon lead us into very advanced economics. It is sufficient for the present if we have appreciated some of the difficulties which inevitably attend the organization of a productive process which uses elaborate equipment. It should be observed that most of these difficulties are inherent in the productive process itself; they do not depend on the private ownership of capital. Some of the consequences of private ownership will be considered in the next chapter.

[1] On the question of Brazilian coffee, see J. W. F. Rowe, *Markets and Men*, ch. 2. The case for the policy adopted by the Brazilian Government was much weakened when they continued the policy of destroying surpluses even in the years after the original overproduction crisis had passed.

consumer. The stocks which are held by merchants and manufacturers form a kind of buffer between the raw-material producer and the consumer for whom he is ultimately working. It is an elastic buffer, and it is liable to certain swellings and contractings of its own. But the most important economic consequences of stock-holding arise when there has already been some disturbance in the production of the raw materials.

There are many materials (for example, wheat and cotton) which are the result of agricultural operations, so that supplies inevitably come in at certain particular times of the year. Since they are needed continuously, and can be kept until they are wanted, merchants have built up a very delicate and ingenious organization to facilitate the holding of stocks on a large scale, so that supplies which only come in at particular seasons can be used at an even rate throughout the year.[1] But it sometimes happens that this organization is subjected to exceptional strains. It can cope fairly well with the strain which is caused by a bumper crop, to which it reacts in the obviously desirable way of holding over the surplus, in the expectation that on some future occasion there will be a shortage. But suppose (as is not unknown) that two bumper crops come in succession, what then? As warehouses become overcrowded, the costs of holding even larger stocks mount very rapidly, so that a signal has to be given to the farmers to cut down production. The same thing happens (and this has been a frequent occurrence in the modern world) if the demand for the product has been increasing very rapidly, but farmers have overestimated the rate at which it is increasing, so that they have produced more than the consumer is at the moment prepared to take. In either case the warehouses become loaded with *surplus stocks*.

It will be well for us to reflect for a moment on the situation which then arises, for there are few economic problems which in recent years have caused more misunderstanding. Either as a result of the vagaries of nature, or as a result of miscalculation, producers have turned out more than they would have desired to produce, and more than they would be willing to produce as a long-term policy in later years. If the commodity produced is

[1] This organization consists of the Organized Produce Markets, whose market reports were referred to above, p. 7.

great gains in efficiency; thus in many industries the size of the firm has had to keep on growing in order to take advantage of these more productive methods. In the middle of the eighteenth century a firm which employed a few dozen men was a large firm; by 1815 there were a few monster concerns whose employees were running into thousands. Although it was of course impossible for this rate of expansion to continue, we have to-day reached a point where firms with over a thousand employees are fairly numerous, while a few of the largest combines are well past the 10,000 mark.[1] Since the amount of capital used has generally increased more rapidly than the number of employees, even these figures do not fully reflect the change which has taken place. A change of this magnitude was bound to affect the whole problem of the control of capital.[2]

So long as the typical firm was only a small workshop with a handful of employees, the capital goods needed for production could usually be acquired by a single person out of his own possessions, though some part of them (perhaps the building itself) might be hired from someone else. If the business was successful, and earned good profits, some part of these profits might be used for the acquisition of more capital goods, and so the size of the business would grow. But except in very favourable conditions (such as did exist in the early days of the cotton industry, for example), the rate at which growth could proceed along these lines would be very moderate. The firm began small, and, even if successful, it usually stayed small.

In this primitive organization of business, the manager and controller of the firm, and the owner of the capital goods employed, were one and the same person. (Our ancestors originally referred to him as the 'undertaker' of the business. Nineteenth-century economists, fearing misunderstanding, preferred the French equivalent 'entrepreneur'.) But when the advantages

[1] Apart from the government itself, the largest firm in Great Britain is the London, Midland and Scottish Railway, with over 200,000 employees in normal times.

[2] It should be noticed that such changes in the scale of production, however they occur, are always likely to have repercussions on ownership. Many examples can be found in the history of agriculture. The English enclosure movement of the late eighteenth century is one of them; the collectivization of agriculture in Russia (the Communist revolution began on a basis of peasant proprietorship) was almost certainly another.

IX

PRIVATE PROPERTY IN CAPITAL

1. If capital goods are to play their part in the ordinary running of the productive process, they need to be looked after; some one has to be responsible for seeing that the durable-use varieties are kept in good condition, and that all kinds are used to advantage. In a socialist system the duty of looking after the community's capital equipment would be exercised by public officials; in a system of private property it is supposed to be performed by the private people who own the capital. There are some kinds of society for which the case that can be made along these lines for the institution of private property is extremely convincing; for instance, the great strength of peasant proprietorship as a form of land tenure is to be found in the loving care which a peasant bestows upon land when it belongs to him. If capital is used to better advantage as a result of private ownership, and if the profits which are received by the owners are on the whole not more than a reasonable return for the care which they take of their property, then it may be more to the interest of the whole community (including those who are not owners of property) to have capital administered by owners rather than by public officials (who would also require to be paid). But it is only possible to make out a good case for private ownership along these lines, if the owners of property do actually look after the capital goods which they own; in practice it has become less and less true that they do so. The case for private ownership is in consequence considerably weakened; or at the least it is obliged to shift its ground. We shall give an outline in this chapter of the remarkable way in which the nature of capital ownership has been transformed during the course of the last two hundred years.

2. The principal influence which has brought about this transformation is the growing advantage of producing on a large scale. New ways of producing on a large scale have continually been invented, and some of them have offered

money. In the case of land or buildings, it is possible to arrange for a particular capital good to be leased or hired, subject to a precise undertaking that it is to be returned in satisfactory condition; but (at least in ordinary business dealings[1]) it is not possible for single-use goods to be hired in this way, since they are going to be used up in the process of using them. There is therefore nothing for it but to express the loan in the form of a certain sum of money value, to be returned in money at an agreed date in the future; even in the case of durable-use goods it is often more convenient for the loan to take this form. Instead of the borrower being lent capital goods directly, he is lent a sum of money with which he can acquire the capital goods he needs.

The situation which arises as the result of a money loan such as this deserves very careful attention. If capital goods are owned by a partnership, then it is clear that the partners own those capital goods in joint ownership. If a landlord leases land or buildings to a tenant, then it is clear that the landlord still owns the property which has been leased; the tenant simply acquires the right to make use of the property. But if an entrepreneur borrows £1,000, and uses that £1,000 to make an addition to the capital goods under his control, these capital goods do not belong to the lender, nor to the lender and borrower in joint ownership; they belong to the borrower, and he has every right to dispose of them exactly as he wishes. But he does not personally become any richer as a result of this increase in the capital goods which he possesses (though of course he may become so in the end if he uses these additional resources advantageously); the increase in the capital at his disposal is offset by the debt of £1,000 which he owes. Similarly, if the lender has sold capital goods (say house property) in order to be able to lend the £1,000, he is not made poorer as a result of his having a smaller amount of capital goods in his possession; the £1,000 debt owing to him stands in the place of the capital goods he sold. When we are considering the personal 'capital' of particular people, we have to regard the debts owing to them as part of their 'capital', and the debts which they owe as deductions from their 'capital'. This is the

[1] Proviso made necessary by the American Lease-Lend Act (1941).

of producing on a larger scale began to develop, the capital goods needed for starting one of these larger businesses became too costly for a single person to be able to acquire them out of his own possessions—or rather, few of those people who possessed the right kind of ability were able to do so. A solution might, however, be found if a number of people clubbed together so as to provide the necessary capital equipment out of their joint resources. The legal form of this association was the Partnership.

Partnership is a system whereby a small number of persons hold capital equipment in joint ownership, and legally joint ownership is supposed to imply joint management. But it will often happen that some of the partners take a more active share in the administration of the capital than the others can do—the partnership is divided into active partners and 'sleeping partners'. Now the sleeping partner is putting himself very completely into the hands of his associates; he is allowing them to manage his capital for him, and on the success of their management depends, not merely whether he makes a good income or not, but whether he preserves his capital or loses it completely. To enter into a partnership, when one does not intend to take an active part in its management, is a very risky thing to do; it means imposing a very high degree of trust in one's associates.

3. It can readily be understood that there must always have existed owners of capital who would be reluctant to enter into partnerships; but there has always been an alternative method by which the property of such people can be made available for use in businesses which they do not control—the method of borrowing. When an entrepreneur acquires control over capital by borrowing it, his obligations to the lender are set down in the contract, which states that certain definite sums of money are to be paid at particular dates, and so on. The lender has no right to anything beyond what is laid down, but to that he has a firm legal right. It is not surprising that owners of property should often prefer to have a definite contract of this sort instead of the close association involved in a partnership.

Capital may be lent in the form of goods or in the form of

least mishap to his enterprise would leave him with capital goods worth less than £1,000, so that circumstances in which he would be unable to honour his obligation in full would be exceedingly likely to occur. Even if he possessed £1,000 of his own, the risk of losing half the capital invested in the enterprise might be quite considerable, so that a lender might still think that the security was not good enough. But if he already possessed a capital of £10,000, he would usually have little difficulty in borrowing an extra £1,000 for some promising purpose; for if capital goods to the value of £11,000 were used in a particular business, the chance of so much being lost that a debt of £1,000 could not be met would be relatively small. Whether it is a rule of economic affairs that 'to him that hath shall be given' may be disputed; but there can be no doubt that it is a rule of borrowing and lending that *to him that hath shall be lent*.

4. These two methods—Partnership and Borrowing—were the only legal methods of increasing the capital at the disposal of a single firm which were available in England (in ordinary cases) up to the middle of the last century. Even when they were both used to the utmost, there were limits to the amounts of capital which could be brought together in these ways. Partnerships did not work smoothly if they had more than half a dozen members or so; and the amount of money which could be borrowed by a partnership depended on the capital which the partners themselves were putting up. If (say) the partners themselves had contributed £10,000 and £10,000 had been borrowed, further borrowing might become very difficult, for the reason we have mentioned. The way in which these difficulties have finally been surmounted is by the formation of companies, instead of partnerships, as a more convenient way of organizing large businesses; but before the eighteen-fifties the only legal ways of forming a company were by Royal Charter, or by special legislation (as was done for the early railways), and these were expensive. So-called companies were also formed in a less regular way, but these were in law nothing but extended partnerships, so that their legal position remained anomalous and dangerous to their members.

reason for the distinction between *capital* in its economic sense (capital goods) and *capital* in its business sense (when it may mean nothing but pieces of paper acknowledging claims). The claims are indications that the control over capital goods has been transferred in return for the promise of an agreed annual payment.

If we contrast the position of a lender (who, after he has made his loan, is better described as a creditor or a bondholder[1]) with that of a sleeping partner, we see that while the receipts of the sleeping partner are entirely dependent upon the way the business he participates in is managed, the bondholder is bound to receive exactly what he has been promised, so long as the borrower is able to pay at all. The only risk to which the bondholder is exposed is that the debtor will default on his obligation, and (at least so far as debts arising within a country are concerned) there is always legal machinery to ensure that debtors must pay if they can. But there is always the possibility that a debtor will not be able to pay (or not be able to pay fully), and a lender will therefore be more willing to lend if he has good reason for confidence in the *solvency* of the borrower. Since there are many cases in which the lender would himself be unable to acquire the requisite knowledge of the borrower's affairs, there is great scope for intermediaries between borrower and lender—intermediaries in whose own solvency the ordinary lender has confidence, and who can make the necessary inquiries before passing on the funds which have been entrusted to them. The work of these intermediaries is called Finance; there are various kinds of financial firms, but the most important are the banks.[2]

One of the main considerations which a lender has to take into account when estimating whether it is safe to lend to a particular borrower is the amount of other capital which that borrower possesses. If a person who possessed no capital of his own tried to borrow £1,000, he would be unlikely to have much success in his endeavours; for even if the way in which he proposed to use the money appeared to be promising, the

[1] The distinction between these being, broadly, that a creditor has lent money for a short period, a bondholder for a long period.

[2] The mutual relations of different kinds of financial intermediaries will occupy a good deal of the attention of a student of economics when he comes to the subject of Money.

directors who might abuse their position, the law insists on safeguards such as a certain degree of publicity in accounts, and imposes penalties for the raising of capital on false pretences (misstatements in prospectuses, and so on). The history of company legislation is a long story of guerrilla warfare between the law and a small fringe of ingenious rascals whose activities form the shady side of company promotion; there is no doubt that in England the law has had the better of the struggle. Provision has also been made in one of the later Company Acts (1908) for the institution of a hybrid between the partnership and the old joint stock company—the Private Company. Thus there are now three main legal forms taken by English businesses. (1) The Partnership still exists with its Unlimited Liability, but its main stronghold is in the professions where little capital is used. (2) Small firms are largely organized as Private Companies, with limited liability, but not allowed to have more than fifty shareholders, and (since it is supposed that a small group of shareholders will usually have personal knowledge of the business) without the obligation to publish accounts. (3) When a business desires to have more shareholders than this, it has to become a Public Company, whose number of shareholders is unrestricted, but which is subject to regulations about publicity. (These regulations have been continually tightened up, but their adequacy is still disputable.) Most of the largest companies naturally take this form.

5. Thus the modern company has two ways of securing the capital goods which it needs in order to commence, or to expand, its operations: one by borrowing, and one by the issue of shares. The shareholders who have purchased the shares are in a certain sense part-owners of the company; they elect the directors, who are their representatives. But it is impossible for any legal provisions to give to shareholders the knowledge which they would need in order to elect competent directors;[1] so that in

[1] Just the same problem arises with political democracy. It is impossible for important officers, requiring specialized capacities, to be elected directly; for instance, a democracy which attempted to appoint its ambassadors to foreign states by direct election would soon be in a sorry plight. The method of electing general-purposes politicians whose business it is to make appointments, or to select those who are to make appointments, is not available in an association such as a company, itself formed for one specialized purpose.

The particular danger to which the members of these companies were exposed (the same danger beset all sleeping partners) was the danger of Unlimited Liability. The law declined to make an absolute distinction between the private property of a partner and the capital which he had contributed to the partnership. If the partnership was unable to meet its obligations, the whole of the property of the partners could be drawn upon to satisfy the demands of creditors. Thus there was many a sleeping partner who experienced a rude awakening; the business in which he had been mildly 'interested' suddenly collapsed and engulfed his whole fortune.[1]

The great change in the English law on this matter was brought about by a series of Company Acts (culminating in the Act of 1862), which made it easy to form Joint Stock Companies with Limited Liability. A shareholder in such a company is ordinarily not liable for the debts of the company to any greater amount than the capital which he has contributed; thus if he has bought shares to the value of £100, he may lose that £100 if the company is a complete failure, but he cannot lose any more. The shareholder is therefore in a much less risky position than the sleeping partner (whose role he in a sense inherits). There is nothing to prevent the formation of companies with hundreds (or even thousands) of shareholders, so that the amounts of capital which can be brought together by the company form of organization are much larger than what could have been brought together by partnerships.

It was perhaps not unreasonable for the law to assume that the members of a partnership would all be actively engaged in the management of their joint capital; but it would be obviously absurd to pretend that a crowd of shareholders could take any active part in the management of a giant concern, in which many of them would have no more than a few shares. The legal theory of the joint stock company is that the shareholders elect representatives—the directors—who administer their capital for them. In order to protect the shareholders against

[1] The potentialities of such a catastrophe as a source of domestic drama were a godsend to novelists; but there was one novelist (Sir Walter Scott) who experienced them in his own person. He had used the profits of the Waverley novels to become a sleeping partner in a publishing house, which failed, leaving him personally in debt to the amount of £130,000.

shares whenever he desires. Shares in private companies cannot be sold except to persons approved by the directors of the company; but shares in public companies can usually be bought and sold quite freely, without the company's officials being consulted in any way. In order to facilitate such transactions, there has grown up a body of dealers, who are organized in the Stock Exchange.[1] The ability to sell his shares on the Stock Exchange does not indeed safeguard the shareholder against loss; if he gets bad news about the company, and so wants to dispose of his shares, the chances are that other people will have heard it as well, so that buyers will be hard to find, except at a reduced price. But the pessimist does get a chance of withdrawing his fingers before they get burnt too badly.

6. The final result of the transformation we have been describing in this chapter (a transformation, similar in outline, but with many tiresome differences in detail, has been going on in most other countries) is that the capital equipment of the community has, in the main, ceased to be owned directly by private people. The main exceptions to this rule (and they are only partial exceptions) are land and houses; it is a curious commentary on the attitude often taken by social reformers towards land ownership that the modern landlord still performs a real function in looking after the capital goods in his ownership, while most other property-owners hardly do so any longer. They have mostly given up their direct command over capital goods and have acquired titles to ownership, which are only pieces of paper, without any particular goods being identifiable to which they correspond. Since the shares owned by the modern shareholder are usually spread over a number of different companies, his connexion with any particular capital goods has practically disappeared.

This is indeed less true for company directors themselves, who are usually important shareholders in the companies they

[1] So called because the dealers trade in stocks and shares. This is the other sense of *stock*, to which we alluded in the last chapter. The difference between stocks and shares is of no economic importance, except that stocks may include bonds. ('Stock' in *Joint Stock Company* is yet a third sense, the now obsolete sense whose place has been taken by the modern 'capital'.)

practice the directors of a new company are usually nominated before the shares are issued—before the shareholders have become shareholders—and they perpetuate themselves by co-opting others, whose selection is merely ratified by the dumb herd. It therefore corresponds much more with the facts if we consider the directors of a company as themselves forming a kind of partnership, putting up some part of the capital themselves, and acquiring extra capital (often far in excess of what they have put up), partly by borrowing, partly by issuing shares. If we look at the matter in this way, we see that the issue of shares has itself developed into a kind of borrowing, distinguished from the other kind in just one significant way—that the bondholder has the right to a fixed annual payment (expressed as a fixed rate of *interest*), while the shareholder has no more than the right to a share in whatever *profits* are left over each year after other claims have been met.[1]

The shareholder has the protection of limited liability; but otherwise he puts himself into the hands of his directors, just as the sleeping partner put himself into the hands of his associates. He gives over his property to the directors and lets them manage it for him, so that it depends on their ability and their diligence whether or not he gets a good return, or whether indeed he loses it altogether. At first sight it seems astonishing that shareholders should be found who will have such confidence in the directors of public companies, people with whom they are most unlikely to have any close acquaintance. The explanation is partly to be found in another consequence of limited liability. Since the shareholder cannot lose more than he has put in, whatever happens to the company in which he has invested, he will be in a safer position if he has small holdings of shares in a number of different companies than if he has 'all his eggs in one basket'. This the sleeping partner could not do without adding to his risks, but it is the common practice of the modern capitalist.

Another way in which the shareholder in a public company is protected is by the facility with which he can dispose of his

[1] Another thing which indicates that this is the right way of looking at the matter is the creation of various sorts of obligation intermediate between the bond (or debenture) and the *ordinary* share—preference shares and so on.

X

THE NATIONAL CAPITAL

1. We have now examined the nature of capital under two aspects: (1) its aspect as a factor of production, consisting of real goods being used in the productive process; (2) its aspect as a superstructure of rights and titles to ownership, by means of which the real goods are attributed to their ultimate owners. The general way in which these two aspects are fitted together is becoming clear. The capital possessed by an individual capitalist will usually include some actual goods (houses, land, durable-use consumers' goods, and so on), but for the most part it is likely to consist of paper titles, shares and bonds. These latter cannot be associated with particular pieces of real equipment, but are claims against the equipment used by firms; usually they entitle their holders to receive interest or dividends out of the profits which the firms earn by using that equipment. Now since a company, from the point of view of ownership, is simply a means whereby a number of people can hold capital goods in common, the capital equipment of the company, after other obligations have been met, belongs to its shareholders. The conventional way of expressing this when drawing up a company's accounts is to reckon the shares as *Liabilities* of the company, and to bring out the company's liabilities as equal in value to its *assets*. (The assets of a company—like those of an individual person—consist of the property it possesses, plus the debts due to it; its liabilities are the debts which it owes, or the claims which are set against its assets.) This would work out in a concrete case in the following way.

Suppose that a company has been formed in the year 1935, and its capital was then got together by issuing ordinary shares to the value of £100,000 and by borrowing £30,000 on debentures or bonds. Let us suppose that we are considering its position at the beginning of the year 1938. At that time it also owes £10,000 to a bank, and £5,000 to various trade creditors (goods have been delivered to it, but not yet paid for). On the other side it is owed £5,000 by customers who have not yet

control, and it is to some extent less true for the shareholders in private companies. In these cases something of the original function of ownership remains. But if we ask what economic function is retained by the purely passive shareholder, it can be no more than the function of enabling the active directors and controllers of business to get command over capital. Now it is a real advantage that they should be able to do this easily, because it enables new opportunities for the expansion of business to satisfy consumers' wants to be seized upon easily, and (above all) to be seized upon without delay. The facility of raising capital is actually increased by the looseness of the connexion between the particular capitalist and any particular set of capital goods. For if a business desires to raise more capital it is not obliged to appeal to those particular people who happen at the moment to have spare money available; it has the much wider choice of applying to anyone who possesses shares which can be sold on the Stock Exchange, and who would be willing to sell some of these shares and lend the proceeds to the business in question. This facility of raising capital is a real social gain, though the full possible advantage is not always taken of it. But perhaps it is not a large gain to set against the considerable part of the Social Output which has to be set aside for the payment of interest and dividends.

We shall be returning to this point when we come to consider the Distribution of Income;[1] it will suffice for the present if we have got some idea of the remarkable evolution which has been taking place in the institution of Private Property—an evolution which is probably not yet finished, and which may yet have some surprising turns in store.

[1] See below, Chs. XIV and XVII.

considering one exception to this rule a little later on;[1] but such exceptions are of little practical importance.

2. Let us now take a simple case, and see how the two aspects of capital fit together. Suppose that we have a company like that we have been considering, but with no trade debts either way, and no debt to a bank. Let us further suppose that its shareholders (including bondholders) have no investments in other companies. Then we can take the company and its shareholders together, and can treat them as a self-contained group. The total capital of the group can be added up in two different ways, either of which will give the same result.

On the one hand, we can look at the capital from the side of ownership. The shareholders will have in their private possession certain capital goods (houses and so on) which have no connexion with their investments in the company. Let us say that the value of these personal possessions is £20,000. They also own shares and bonds to the value of £150,000. If we assume that they have no personal debts, their total net assets come to £170,000. The net assets of the company are, as we saw, nil. Therefore the net assets of the whole group are £170,000.

On the other hand, we may look at the real goods. The shares and bonds worth £150,000 correspond, in the company's books, to real equipment worth £150,000. Writing the company's balance-sheet in an abbreviated form, and subjoining a similar account for the shareholders' private possessions, we get the following table:

	Liabilities		£	*Assets*	£
Company:	[a]Shares and bonds		150,000	Capital goods	150,000
Shareholders:	..		..	Capital goods	20,000
				[a]Shares and bonds	150,000
Company and shareholders together:	..		..	Capital goods	170,000

When company and shareholders are taken together, the paper claims (marked *a*) cancel out, giving us as the sum of the possessions of the whole group, nothing but the real equip-

[1] See below, pp. 99–100.

paid for the goods which have been delivered to them; and it possesses equipment, consisting of the various sorts of real goods, valued at £150,000. The resulting situation would be expressed on a balance-sheet more or less as follows:

Liabilities	£	*Assets*	£
Capital issued:		Equipment (land, buildings, plant, goods in process, stock in trade)	150,000
Ordinary shares	100,000		
Bonds	30,000	Sundry debtors	5,000
Bank debt	10,000		
Sundry creditors	5,000		
Balance	10,000		
	155,000		155,000

The firm has been a moderately successful one, so that the total value of its assets exceeds the value of its debts *plus* the original value of its share capital. This leaves a balance of £10,000, which is put on the liabilities side, because any such surplus accrues to the ordinary shareholders, and is available to be distributed to them in dividends (though a prudent management will not begin to distribute any such surplus until it has grown fairly large). Nevertheless, we may say that the ordinary shareholders, who originally contributed £100,000, now have claims worth £110,000. (If the firm had been unsuccessful, the balance might have gone the other way, and the claims of the ordinary shareholders would be worth less than what they had originally contributed.)

When the balance-sheet of a company is understood in this way, it will be seen that it is quite proper for the two sides of the account to add up to the same figure; for if the claims of shareholders are treated as liabilities, the *net assets* of the company (assets *minus* liabilities) must of course be nil. In the case of a private individual, on the other hand, net assets are normally a positive amount. A private person may owe some money to his bank (having an overdraft), and he may have bills owing to shopkeepers which at a particular moment he has not yet paid; but these liabilities are nearly always a good deal less than his assets, for the very good reason that he would be unable to give adequate security for loans to any larger amount. We shall be

the members of a national group, we should find that the cancelling-out process was not complete. There would be loose ends in the form of paper claims owed to or by persons outside the nation. Since the accounts of these outsiders would not be added in to the national reckoning, the claims to which they were parties would only appear on one side of the national balance-sheet, instead of cancelling-out by appearing on both.

The Capital Account of a Nation would thus have to be written in the following form:

Liabilities	*Assets*
*Obligations due to fellow nationals	Real capital goods
Obligations due to outsiders	*Obligations due by fellow nationals
	Obligations due by outsiders

The National Capital of a country equals the sum of the net assets of all individuals and institutions within it. This is the difference between total assets and total liabilities. Since the obligations (*a*) to fellow nationals cancel out, the national capital (as appears from the above table) equals the total value of all capital goods possessed by members of the nation, *plus* the excess of obligations due from outsiders over obligations due to outsiders. Thus most of the national capital consists of real goods; but in the case of a creditor country (such as Great Britain has been, at least until lately) something has to be added on to the value of these real goods to allow for the investments which its citizens have made abroad; while in the case of a debtor country such as Australia, something has to be subtracted from the value of the capital goods owned by Australians or by companies operating in Australia, in order to allow for the shares in these companies owned by non-Australians, and for other debts owed overseas.[1]

4. The other main snag in the cancelling-out process arises over the National Debt. In order to see how this fits into the calculation, let us begin by taking another rather similar case, of infinitely less importance, but easier to understand.[2] A young man, who expects to inherit some property on the death of an elderly relative, can sometimes succeed in borrowing

[1] We shall be returning to the subject of foreign investment in Ch. XII.
[2] This is the case to which we referred above, p. 97.

ment, which is worth £170,000, the same as the total value of the net assets.

The reason why the paper claims cancel out is that we have added together the capital of the company (for which the claims are liabilities) and the capital of the shareholders (for whom they are assets). If we were to take any group of individuals and institutions, and were to perform a similar addition, we should find that all debts and obligations *between members of the group* cancelled out in the same way, appearing as positive items in the accounts of some members and negative items in the accounts of others. If the group were a self-contained group, not having any debts or claims excepting between its members, the total capital of the group could be estimated, either by adding together the net assets of all members, or by adding up the values of all the real capital goods possessed. The two totals would have to come out to the same figure.

3. The particular group for which it is most interesting to make such a calculation is, of course, the Nation. When we add together all the assets and liabilities of all the persons and institutions which compose a nation, most of the paper claims (being owed by firms to persons, or persons to firms, or firms to firms, or persons to persons, all of which are included in the nation) cancel out in the way we have described. If the nation were completely self-contained, we should find that when we had made the cancelling-out properly, the sum of the net assets of all the persons and institutions in the country gave us the same total as the total value of all the capital goods possessed by the nation and its citizens. Very roughly, this is what we do find; but there are a few snags in the cancelling-out process which need a little attention.

First of all, a modern nation is not a completely self-contained group in the sense which would be needed for the cancelling-out to be perfect. Firms engaging in foreign trade will generally have debts owing to foreigners, and will be owed debts by foreigners; while some of the nation's citizens will be shareholders in foreign companies, and some of the companies operating within the country may have foreign shareholders. In consequence, if we were to add together the net assets of all

national debt has to be reckoned as a liability of the government. If the people to whom the debt is owed are themselves citizens of the country, it will appear as an asset in their accounts; and so, when the accounts are added together, the national debt cancels out, like other internal debts. It is only when some part of the debt is due to foreigners that there is no cancelling out; external debt of this sort is a genuine deduction from national capital. From all points of view, a large external debt is much more damaging to a nation than a large internal debt.

5. Now that we have discovered how the capital of a nation is made up, let us turn to the figures, and see how it works out in a particular case, that of Great Britain. Table V gives an estimate of the capital account of Great Britain at some date in the years 1932–4; something not very dissimilar would hold for any date between 1932 and the outbreak of war in 1939. But before this table is even approached, it is necessary to utter a most solemn warning. The information which is available for making an estimate of the national capital of Great Britain is much less good than that which can be used for most other large-scale economic calculations. (It is much less good than that which we shall use for the calculation of the national income in Part IV below.) The proportion of guesswork in calculations of the national capital is abnormally high. This is partly because of defects in our information which could conceivably be remedied; direct information about many of the items is lacking, so that estimates have to be made by roundabout and imperfect methods. But the fundamental cause lies deeper, and can hardly be removed in the nature of the case.

The greater part of the national capital consists of durable use goods, land and buildings, vehicles and machines. What value is to be put upon these goods? It should be noticed, in the first place, that any one of these goods has, in ordinary practice, two sorts of values: (1) its *capital value*, the value at which it could be sold outright; (2) its *annual value*, the price which would be paid for the right to *use* it during a year, the article to be returned in good condition when the year is over. Since most of these durable-use goods are expected to last for much more than a year, their capital values will usually be much

money from a money-lender without any security but his 'expectations'. The practice is not a wise one, and it is probably much less common to-day than it was in the aristocratic society of earlier times. But how does it fit into our accounting? The loan, when it has been made and spent upon riotous living, is an asset to the money-lender and a liability to the gilded youth who borrowed it. It is not a liability to the elderly relative, from whose estate it is expected to be paid; he has not been consulted about it at all, and would be within his rights if he cut the spendthrift off 'with a shilling'. Thus there are no capital goods outstanding against the loan; we cannot regard it as a claim possessed by the money-lender against any of the real capital goods of the community. But, being a debt from one member of the nation to another, it has to be cancelled out when we are adding up the national capital. There is nothing for it but to regard the net assets of the spendthrift as a minus quantity, a state of affairs which is only possible because he has the expectation of getting an addition to his assets at some future date which will enable him to pay his debts.

Apart from a few special cases such as this, no individual or firm can have negative net assets. If a person's liabilities became greater than his assets, he would be adjudged bankrupt, and his assets would be divided up among his creditors, each of them receiving so many shillings in the pound as the assets would provide. Governments, however, can have negative net assets without going bankrupt, and can carry on in that situation for an indefinite period; the reason being that they have the power of raising taxes to cover the interest on their debts.

The national debts of governments have been mostly accumulated by past wars; however necessary these wars may have been, they are unlikely to have resulted in the acquisition of capital goods as industrial borrowing would do; there is nothing to show but the immaterial gains of freedom and independence. Whatever may be the case from a higher standpoint, the situation of the government, when the war is over, is from the standpoint of National Accounting just like that of the spendthrift. It owes a vast debt, and has no assets to set against it. Its net assets are negative.

When we are setting out the National Balance-sheet, the

but it should be noticed that they may have less economic significance than some of the others.

The estimate of the national capital which is given in the adjoining table is thus an exceedingly rough estimate; it does not claim to do more than give the right impression. For this reason the figures are given in very round numbers. More is to be learned from the general layout of the table and from the relative importance of the various items than from the actual figures themselves.

TABLE V

The National Capital of Great Britain, 1932–4
(millions of £'s)

	Liabilities	*Assets*	*Net Assets*
Private persons, including farmers	[a]Due to building societies, &c. 500	Houses 3,500 Other durable-use consumers' goods 700 Agricultural land 600 Farm equipment 400 [c] Government Debt 2,500 Foreign investments 1,500 [b] Shares, bonds, and other obligations of British firms 14,000	
Total property of private persons	500	about 23,000	22,500
Firms	[b] Shares, bonds, and other obligations 14,000	Buildings and land 1,000 Railways 750 Other industrial and commercial equipment 8,000 [c] Government Debt 3,500 [a] Mortgages on house property, &c. 500 Gold 250	
Total property of firms	14,000	14,000	0
Government and other public bodies	[c] National Debt 6,000	Land and Buildings 600 Other equipment 1,400	
Total public property	6,000	2,000	−4,000
Total National Capital			18,500

higher than their annual values. The selling price of a house, for instance (which is its capital value), will usually be from 10 to 15 times as high as the rent, which is its annual value.[1]

For the purpose of calculating the national capital, the values which are used are capital values, not annual values.[2] But to arrive at the capital value of a durable-use good is often not an easy matter. When a house is sold for £1,000, we can say without any hesitation that its capital value is £1,000; but many of the durable-use goods which are included in the national capital will not have been sold since long before the date to which the calculation refers, and their owners will not be proposing to sell them (if at all) until long after that date. What value is to be put upon such goods? There are several purposes (in connexion with the inheritance of property and with certain kinds of taxation) for which it is necessary to value these goods; skilled valuers are trained to do the job, but the methods which they use vary according to the purpose for which the valuation is wanted. The fixed capital used by a manufacturing firm may have half a dozen different values which can plausibly be put upon it. Different values may be put (1) by the directors and managers of the firm, (2) by their shareholders, (3) by another firm which might consider purchasing the whole equipment 'as a going concern', (4) by yet other firms who would only be willing to purchase the equipment bit by bit. In addition to these there are the values at which the same capital might be assessed for purposes of taxation, central and local, which are not necessarily the same as any of the preceding. In any estimates of the national capital these last values, made for taxation purposes, have to be drawn upon to a large extent, because they are the most readily available;

[1] The relation between the capital value of an article and its annual value does not depend entirely upon the number of years the article is expected to last. Even in the case of land, which is more or less expected to last for ever, the selling price is rarely more than 20 times the rent. The selling price of a promise by the British Government to pay the same sum in interest every year for ever is now (1941) about 30 times the interest (or annual value); that is, the rate of interest (annual value ÷ capital value) is a little over 3 per cent.

[2] The annual values of capital goods reckon into the national output, not the national capital. We have seen that the rents of houses (the price *paid* for the use of house-room) are part of the value of the social output.

(*Note to Table V.*)

The figures in this table are based on H. Campion, *Public and Private Property* (Oxford University Press, 1939), particularly pp. 65 and 84. In order to fit Mr. Campion's figures into the accounting form suitable for our purposes, I have had to make some extra guesses, which do not claim to be more than guesses, though I think they are reasonable. (1) Mr. Campion gives £4,600 millions for the total of private houses and buildings used for business purposes taken together. I have divided this, with an eye on the valuations for rating. (2) The Colwyn Committee estimated that holdings of the National Debt were divided between firms and private persons in about equal shares; holdings by firms were probably larger in 1932 than in 1927, so I have made an adjustment to allow for this.

The following points should also be noted: (1) Armaments and roads are not allowed for in Mr. Campion's estimate of public property. The reader is at liberty to make an addition to the national capital to allow for these, if he so chooses. (2) The foreign investments included among the national assets are net obligations due from outsiders. Material property owned by British firms in other countries (branches, subsidiary companies, &c.) is included among the material assets of firms. (3) The external debt of £1,000 millions or so to the American Government was not being paid after 1931, so it is neglected. An American would be within his rights if he deducted £1,000 millions from our estimate of the national capital on account of this debt. (4) Gold in the Exchange Fund has been added to gold in the Bank of England; but that makes it all the more of a question whether both of these institutions should not be reckoned among *public bodies*, rather than among *firms*. It should be noted that these stocks of gold were largely increased during the years 1933–8. (5) Holdings of national debt by public bodies are cancelled out, so they do not appear in the table.

The table can be added up in the two ways which have been indicated. On the one hand, we may proceed by considering the net assets of the three groups. The net assets of private persons (the total of private property) come to £22,500 millions; the net assets of firms are of course nil; the net assets of public bodies are *minus* £4,000 millions. This gives us £18,500 millions for the national capital. Alternatively, we may strike out all those items (marked *a*, *b*, *c*) which occur both in the liabilities and in the assets columns; if we then add up the remaining assets, we shall again get £18,500 millions. If we adopt this second method, we have the advantage of seeing how the national capital was made up in these years 1932–4; it included real capital goods to the value of about £17,000 millions and obligations due from outsiders worth about £1,500 millions.

One interesting point which emerges from the table is the place of money in the national capital. Modern money consists in the main of obligations from one member of the nation to another; thus a pound note is simply a statement of debt from the Bank of England to the holder of the note. (If the reader doubts this, he can just look at a pound note and see!) We are reckoning the Bank of England as a firm, so that the bank notes held by private people reckon among the obligations marked (*b*) in the table. Similarly, when a person has money in a bank, all that exists is a debt to him from the bank, so that also reckons under (*b*). On the same principle, money held by firms is to be reckoned as a debt from one firm (the bank) to another, so it has already been cancelled out, like other debts between firms, and does not figure in the table explicitly. Silver and copper coins are a little more complicated, but since the metal contained in these coins is worth much less than the face value of the coins, it is best to regard them also as a kind of notes, printed on metal instead of paper so as to wear better. The only kind of money which comes into the final reckoning as part of the national capital is the gold held by the Bank of England (or the Government); there is no doubt that this gold must be included, because it can be sold off to foreigners (if so desired) and useful capital goods got in exchange for it.

the community's capital in July. But a loaf of bread baked in April has been eaten before a loaf baked in June comes into existence; both loaves are part of the year's output, but there is no date at which they are both of them parts of capital.

Thus the social output consists of a different collection of commodities from that which makes up the social capital; but they are both of them collections of commodities including many different sorts. Because of the different sorts of commodities included in capital, the only feasible way of reducing them to a common basis, so as to get a single figure for the national capital, was to take their values in terms of money (this quite apart from the question of foreign debts). We gave our figure for the national capital as so many pounds sterling, and just the same has to be done for the national output. We must always think of the social output as consisting of goods and services, things useful for satisfying wants; but when it comes to measurement, the only way of adding together an output consisting of so much bread, so many bicycles, so many ships, so many hours' teaching and so on, is to take the value in terms of money. There are serious defects in the money measure, so that it has to be used very carefully. But we shall find it convenient to begin by taking the money measure for granted, leaving its defects, and how far they can be remedied, for later discussion.[1]

2. The methods of computing the social output which are commonly employed depend on a very important economic principle, which is concerned with the close relationship between the value of the net social output and the total of the incomes of members of the community. When this principle is applied, as we usually want to apply it, to calculating the national output of a nation, there are a couple of snags which complicate the argument; after our study of the national capital, the reader will not be surprised to learn that these snags are due (1) to the existence of obligations to and from abroad, (2) to the economic activities of the government. We shall deal with these snags in due time,[2] but for the present it will simplify things if we leave them out of account. In the rest of this

[1] See below, Ch. XV.

[2] See below, Chs. XII and XIII.

PART IV

THE SOCIAL OUTPUT

XI

THE SOCIAL OUTPUT AND THE SOCIAL INCOME

1. THE general picture of the productive process during any period, which we worked out in Part I of this book, and have needed to keep at the back of our minds throughout our later discussions, can be briefly described as Labour working on Capital to produce Output. In Parts II and III we have discussed the Factors of Production—Labour and Capital; now we come to the Social Output. We shall devote a good deal of our attention to the problem of measuring the social (or national) output, mainly in order that we should have a clear idea of what the social output consists, and what are its component parts. When we have done this, we shall be in a position to say something about changes in the social output, how they are caused, and how people's economic welfare is affected by them.

There are many similarities between the problem of measuring output and the problem of measuring capital; we shall meet again over our new problem some of the same difficulties as we have met already. But it is very important that we should keep the two problems clearly distinct. Both the output of a community and its capital consist, for the most part, of a collection of goods (though output contains services as well, while capital does not). But the goods which are included in the one collection are not the same as the goods included in the other. The goods included in capital are those which exist at a particular moment of time; the goods included in output are those produced during a period of time. Some of the goods contained in output are durable goods, which will also reckon as parts of the community's capital at any time when they are simultaneously in existence. A house finished in April and a house finished in June are both in existence in July, and will reckon as parts of

and services (buying them, of course, from the Firm, so that a part of its output is accounted for in this way); the rest they will save. Now when we say that a person saves a part of his income, we do not mean that this part of his income is not spent; saving is the opposite of consumption, not the opposite of spending. When a person saves, he uses a part of his income to make an addition to his assets; he is still saving, whatever form the additional assets take. Thus one possible way for a person to save would be by purchasing new equipment directly, and adding it to the assets in his possession at the end of the year. If we supposed that all the savings took this form, then it would be easy to see that the social income would purchase the social output. The part of the social output which consisted of consumption goods and services would be bought out of consumption expenditure; the part which consisted of the net investment would be purchased out of savings. Income as a whole would purchase output as a whole; we should have social income equalling social output along this route too.

Further, it is obvious that the equality would not be disturbed if we were to suppose that the savers, after acquiring the new equipment in this way, did not retain it in their possession, but lent it back to the Firm. The social income would still have purchased the social output; but the Firm would retain control of the new equipment, issuing shares in exchange for it. The additional assets of the savers would now take the form of shares; the shares would be a liability to the Firm, but the Firm's assets and liabilities would still be equal, as they should be, because the Firm would have the new equipment, equal in value to the shares, added on to its assets. The Firm's balance-sheet would still balance.

In order to arrive at this last situation, it would obviously be unnecessary for the actual goods, which constitute the new equipment, ever to pass directly into the hands of the savers. The savers might use their savings to acquire shares directly, and the Firm might issue the shares for them to acquire, without the new equipment ever changing hands. If the value of the shares issued was equal to the value of the savings, it would also be equal to the value of the net investment. The Firm's assets and liabilities would still balance; the savers would have

chapter we shall make the unreal assumptions that there are no economic relations with persons or bodies outside our community, and that the economic activities of the State can be neglected. When these assumptions are made, the argument is easier to follow; there is not much harm in making simplifications of this sort if we propose to fill in the gaps later on.

Subject to these assumptions, the principle we have to establish is very simple. It states that the value of the net social output of the community and the sum of the incomes of its members are exactly equal. The social output and the social income are one and the same thing.

It will be convenient to begin with a special case in which this principle is directly obvious. Let us suppose that the whole of the productive system of our community is organized in a single giant firm, which controls all the capital equipment, and employs all the labour. This is very much the situation which would exist in a perfectly socialist community; the whole economic system of such a community would consist of a single firm, in which the State would own all the shares. We need not here suppose that the State owns the shares, as we do not want to bring the State in the picture just yet; we will suppose that the shares belong to a body of private shareholders, who may thus be regarded as the indirect owners of the capital equipment.

The net social output and the net output of our Firm are then one and the same thing. It consists, as we know, of the total amount of Consumption Goods and Services produced, *plus* Net Investment, which is the increase in capital equipment brought about by the year's production. The wages of labour have to be paid out of the value of this output; but all the rest is profit, belonging to the shareholders.[1] The wages of labour are the incomes of the labourers; the profit left over is the income of the shareholders. The value of the social output is thus equal to Wages *plus* Profits; and Wages *plus* Profits equals the sum of incomes. The net social output equals the social income.

The same equality can be tested out along another route, by considering the way in which the incomes are spent. People will spend part of their incomes on buying consumption goods

[1] Since our firm controls the whole of production, there can be no purchasing of materials from other firms.

ownership of parts of the new equipment, instead of by acquiring new equipment directly, does not disturb the relationship between the social output and the social income. That relation can be summed up in the following very important equations.

On the earning side

$$\text{Social Output} = \text{Wages} + \text{Profits} = \text{Social Income}$$

On the spending side

$$\text{Social Income} = \text{Consumption} + \text{Saving} = \text{Consumption} + \text{Net Investment} = \text{Social Output}$$

These equations will remain valid in spite of all the further complications which we shall take into account in the rest of this chapter. But in the two following chapters we shall encounter certain points where it is necessary to take some care over the interpretation of these equations.

3. It will be convenient, as a next step, to take into account some complications which can be allowed for while still supposing that industry is organized in a giant Firm.

In the first place, we have hitherto been assuming that the Firm pays out to its shareholders the whole of the profits which it earns, that the shareholders then save part of the incomes they get in this way, and that they lend these savings back to the Firm. In practice, a firm might be inclined to short-circuit this process, and to keep back part of its profits, instead of distributing all the profits to the shareholders directly. In such a case, what effectively happens is that the shareholders are compelled to save a part of the incomes which are due to them; additional shares may not be issued, but the shares previously outstanding will increase in value, because of the additional capital goods which they represent. The undistributed profits have to be reckoned as part of the social income; they are really part of the incomes of the shareholders, although they are not usually reckoned as such, because the shareholders do not get

acquired shares to the amount of their savings, while the goods which constitute the net investment would be retained by the Firm and added to its capital equipment.

So long as we assume that the whole of the capital equipment of the community is controlled by the single Firm, it is this last form which we ought to suppose the saving to take. People save by acquiring shares in the Firm; but the creation of the shares is only the reverse side of the accumulation of additional equipment by the Firm. When a person saves, he acquires the right to receive some part of the profit which will be earned by using the additional equipment which is being produced. He uses a part of his income to acquire a share in the indirect ownership of that new capital equipment.[1]

Let us look back at the combined balance-sheet of firm and shareholders, which was given in the last chapter,[2] and see how it is affected by saving. Taking figures more appropriate for a giant Firm, we should have, at the beginning of the year

	Liabilities	*Assets*	
Firm:	Shares	Real Equipment	£1,000 millions
Shareholders:	..	Shares	£1,000 millions

At the end of the year

	Liabilities	*Assets*	
Firm:	Shares	Real Equipment	£1,050 millions
Shareholders:	..	Shares	£1,050 millions

The extra £50 millions of shares held by the shareholders are their savings; the extra £50 millions' worth of Real Equipment is the Net Investment. Since the Firm's assets and liabilities must be equal *at both dates*, the savings must be equal in value to the net investment.

Thus the fact that people save by acquiring titles to the

[1] A particular person may indeed dispose of his savings in another way than by lending them to the Firm: he may lend them to another private person and so enable that other person to consume in excess of his income. But we need not pay much attention to lendings of this sort, for when the borrower and lender are taken together, the saving obviously cancels out. There is no excess of total income over total consumption. It is only savings which generate such an excess which are genuine savings; under our assumption of the single Firm which owns all the capital equipment, such genuine savings must be lent to the Firm.

[2] p. 97.

House Rents; and these in turn can be further divided up. So we have the following equivalent columns:

Social Output	Net Output of Firm• *plus* Services of Labour not employed by Firm *plus* Use of house-room	Wages paid by Firm• *plus* Profits of Firm• paid out to share-holders *plus* Undistributed• profits *plus* Earnings of Labour not employed by Firm *plus* House rents	Earnings of Labour *plus* Profits of Capital *plus* House rents	Social Income

On the spending side, consumption and saving can be similarly divided up, so that we have as our other set of equivalent columns:

Social Income	Consumption of• goods produced by Firm *plus* Consumption of other labour services *plus* Consumption of house-room *plus* Saving spent on buying new houses• *plus* Saving lent to Firm• *plus* Saving in the form of undistributed profits•	Output of consumption goods and services *plus* Output of new houses sold to savers *plus* Net new equipment of Firm	Consumption *plus* Net Investment	Social Output

These expanded tables are exactly the same in principle as our earlier tables. They still show the social income being earned in the production of the social output, and being spent in buying the social output.

them into their own hands. They have to be reckoned into that part of the social income which is saved; there is a part of net investment corresponding to them, as there should be.

Secondly, we have been assuming hitherto that private people can hold in their personal possession no sort of capital goods, not even consumers' capital goods, such as houses. If we allow them to possess such things as houses, then the rents of these houses have to be reckoned as part of the social income, income derived from a form of capital which is not in the possession of the Firm. (It will be remembered that we are reckoning the use of the houses as part of the social output.) Expenditure on paying the rents of houses is of course a part of consumption. The building of new houses is a part of investment; we may suppose that the actual building is carried out by the Firm, but the part of its output which consists of new houses is sold off to private people, just as the consumption goods are sold off, and not lent back to the Firm, like other investment goods. If private people spend some part of their incomes in buying new houses, they are adding to the assets which they will have in their possession at the end of the year, just as they would do if they acquired shares; consequently income spent in buying new houses is a part of saving. The new houses are to be looked on as a part of new equipment, which is retained in direct private ownership, and not handed back to the Firm in return for shares.

Thirdly, we have been assuming that all labour is employed by the Firm. This is not very convenient in the case of some of the direct personal services. If we allow some of the people who provide direct services to be working on their own account, not for the Firm, we have to distinguish a part of the social output, consisting of these services, which is not part of the output of the firm, and also to distinguish a part of the earnings of labour which are not wages paid by the Firm. The income spent on these services is a part of consumption, so it finds its place in the table without any difficulty.

Let us now consider what alterations have to be made in our equations to allow for these three complications which we have been discussing. On the earning side, instead of Wages *plus* Profits, we must write Earnings of Labour *plus* Profits *plus*

The other point which has to be taken into account when we have more firms than one is the possibility that a part of the shares (or other obligations) of one firm may be owned, not by private persons who are shareholders, but by another firm. If this happens, a part of the profits of the one firm will be paid out to the other firm; but here again, when all the firms are taken together, these transferences of profits will cancel out. The only profits left will be those which are actually paid out to private persons, or which remain as undistributed profits. A further consequence of this possibility is that savings lent to one firm may not be used as a means of increasing the capital goods in the possession of that firm, but may be lent again to some other firm. (An obvious example of this is the case of the banks.) These re-lendings, too, will cancel out when all firms are taken together.

5. Thus the separation of firms makes absolutely no difference to our general argument. All transactions between firms cancel out, when all firms are taken together, as they have to be for calculation of the *Social* Income or Output. But it will nevertheless be instructive to show in detail how the cancellation proceeds, by looking at the way in which firms do actually calculate their profits in practice. Firms calculate their profits by drawing up a profit-and-loss account; what we have now to show is the way in which the profit-and-loss account of a particular firm finds its place in those general accounts of the whole community, whose nature we have been investigating in this chapter.

The profits which are earned by a firm from the production of a particular year equal the value of its output *minus* the expenses to which it has been put in order to produce that output; but in the case of a firm which has obligations (shares or bonds) owing to it from other firms, the interest or dividends received from these other firms may also make a contribution to the firm's profits. The expenses of producing output include (1) wages and salaries; (2) cost of materials used up in order to produce the output; (3) cost of services, such as transport and insurance, provided by other firms; (4) depreciation of the fixed

4. We are now in a position to drop our assumption of the giant Firm. In the tables we have just given, the part played by the giant Firm is exactly the same as that played in reality by all the firms which compose industry and commerce, when they are taken all together. Our Firm is simply the whole collection of actual firms rolled into one. And we can see the part which this whole collection of firms actually plays in the earning and spending of the social income, by looking at the place of the single Firm (marked out by the starred items) in the above tables. On the earning side, the net output of the Firm is equal to the wages it pays out, *plus* its profits (distributed and undistributed). On the spending side, the net output of the Firm is purchased (1) out of consumption expenditure, so far as it consists of consumption goods; (2) out of saving, so far as it consists of new consumers' capital goods, such as houses; (3) out of saving, so far as it is offset by lending to the Firm; (4) out of saving, so far as it corresponds to undistributed profits. This is the position of the single giant Firm, as it appears in the tables; but this is also the position of the whole collection of firms, which compose the real world of industry and commerce, *when they are all taken together*. This we shall now proceed to show.

The new points which emerge when we pull apart our giant Firm into the multitudinous separate firms, large and small, which correspond to it in reality, are only two in number. On the one hand, we have to take account of the materials[1] which are produced by one firm and sold to another, which uses them in its own production. These materials do not come into the picture, so long as industry and commerce are supposed to be amalgamated into one single Firm, because the passing on of materials from one stage of production to another is then a purely internal matter within the Firm. When the firms are pulled apart, the sale of materials looks just the same to the firm which sells them as any other sort of sale does. But since we have also to take into account the purchase of the materials by the firm which uses them, the sale and purchase of such materials will cancel out when all firms are taken together.

[1] There are also certain services, such as transport and insurance, which are performed by one firm for another, so that their role is similar to that of materials.

Since the two sides add up to the same figure, we can rearrange this account in another way, which is more convenient when we want to be able to consider all the firms in a community together. The account which follows has identically the same significance as that just given.

	£		£
Wages and salaries . .	5,000	Value of output . .	10,000
Profits	2,500		
less		*less*	
Interest and dividends received from other firms .	500	Cost of materials . .	2,000
		less	
		Transport, insurance, &c.	250
		less	
		Depreciation . . .	750
	7,000		7,000

This new way of writing the account has the advantage that the columns now add up to a total which is of great economic significance. The £10,500 to which the first account added up is not a figure which would have any significance except to the firm itself; the £7,000 which comes out as the total when the account is written in the second form is the net output of the firm[1]—its contribution to the net output of the community. If the accounts of all firms were written in the second form and the totals added together, we should get as a result the net output of all firms together—the net output of industry and commerce, which corresponds to the net output of the giant Firm in our previous tables.

We can check up this correspondence on either side of the account. On the left-hand side, the net output of the firm is wages *plus* profits *minus* Interest and dividends received from other firms. When all the net outputs are taken together and the totals added up, the parts of profits which are paid out to other firms will cancel out against the corresponding receipts by the other firms. The only profits which will be left are those which are paid out to private persons (shareholders, bondholders, or landlords), and those which remain as undistributed

the unlucky firm to the 'undistributed profit' item in the table on p. 113 will be a negative, not a positive, quantity. Strictly speaking, that item should read 'undistributed profits *minus* business losses'.

[1] This is frequently called the 'value added' by the firm.

capital equipment.[1] The profit left over after these expenses have been covered is due to the owners of the firm's capital equipment, or to people who have lent money to it with which the equipment has been acquired; thus some parts of the profit may have to be paid out in rent[2] of land or buildings (hired directly), or in interest on borrowed money; what remains is available for distribution to the firm's shareholders, though a prudent management will usually not distribute the whole of the residue, but will keep back some part of it to add to reserves.[3]

A typical profit-and-loss account could therefore be set out in the following form, which is substantially equivalent to that used in practice (the figures are only for purposes of illustration):

	£		£
Expenses: Wages and salaries	5,000	Value of output	10,000
Expenses: Cost of materials	2,000		
Expenses: Transport, insurance, &c.	250		
Expenses: Depreciation	750		
		Interest and dividends received from other firms	500
Profits: Rent of land or buildings	500		
Profits: Interest to bondholders	500		
Profits: Dividends to shareholders	1,000		
Profits: Undistributed profit	500		
	10,500		10,500

[1] Some discussion of the problems involved in measuring depreciation will be found in Appendix, Note C. In practice, certain taxes (for example, local rates) will reckon among the expenses of production; but we are postponing the consideration of such questions as taxation.

[2] In practice, it would be more usual to reckon the rent of land or buildings as an expense, rather than as part of profits. But since renting is nothing but an alternative way of getting control of capital equipment (the firm might have borrowed money and purchased the land or buildings outright), our tables will come out more neatly if we reckon the rent as a part of profits.

[3] It is of course possible that in a particular year the expenses of producing the firm's output may be greater than the value at which the output can be sold; a firm which is in this position will make a *loss*, not a profit. Losses are usually met by drawing on reserves; in this case the contribution made by

Thus the net output of industry and commerce is equal to the sum of the wages and profits derived from industry and commerce; and the other elements in the social output (direct labour services, services of houses) have already been accounted for. Subject to the assumptions which we made at the beginning of this chapter, the equality between social income and net social output seems to be fully checked up.

6. The methods which are commonly used by statisticians for the calculation of the national output (or national income) now suggest themselves at once. Although there are certain corrections which have to be introduced when the simplifying assumptions are dropped (we are going to discuss these corrections in the following chapters), the connexion between net national output and the sum of incomes remains close enough for it to be possible to approach the same problem from either side, from the side of output or from the side of income.

Probably the best method, if it can be employed, is the *income method*, which proceeds along the route of adding up the incomes of all the members of the community. But in order to be able to use this method, we need to have adequate information about incomes; for Great Britain, that information does exist, since the Ministry of Labour collects information about the earnings of most wage-earners, and the incomes of most people who are not wage-earners are classified in the accounts of the Income Tax. The gap which is left to be covered by indirect estimates is therefore a fairly narrow one. The best estimates of the national income of Great Britain are therefore made by the income method, though other methods have been used, and their results are in any case useful as a check.

The second method is the *Census of Production method*. On this method the problem is approached from the output side. If there exists a census of production for the year in question,[1] the net outputs of most firms can be calculated from it, and have only to be added together. Estimates have to be made for the sorts of production not included (or not satisfactorily included) in the census, and these are inevitably less reliable; nevertheless a good estimate of the net national output can

[1] See above, p. 6.

profits. The net output of all firms taken together is thus equal to

	Wages and salaries
plus	Profits paid out to private persons
plus	Undistributed profits

But the total of these is just what the total of wages *plus* profits would be if industry were organized as a giant Firm; and we have seen that this is equal to the net output of industry and commerce.

Now look at the right-hand side. Here we have a similar cancelling-out to perform, because of the services performed by one firm for another, and because of the materials sold by one firm to another. The transport, insurance, &c., which figure among the expenses of production for most ordinary firms, are part of the output of such firms as railway companies and insurance companies, and cancel out against that output. Materials which are produced by one firm within the year, and used up by another firm within the year, are reckoned in the output of the first firm and in the cost of materials for the second; thus they also cancel out when the firms are taken together. But some of the materials which are produced during the year will not be used during the year, but will be added to stocks; some of the materials used during the year will not have been produced during the year, but will be taken from stocks. Thus *all* materials will not necessarily cancel out.

When we have performed the cancellations, the sum totals of the right-hand sides for all firms taken together will come out as follows:

	Value of output of consumers' goods
plus	Value of new fixed capital produced
less	Depreciation of fixed capital
plus	Value of materials added to stocks
less	Value of materials taken from stocks

which can also be written

	Value of output of consumers' goods
plus	Net investment in fixed capital
plus	Net investment in stocks of materials

This is easily recognizable as the net output of consumption goods and investment goods produced by industry; that is, it is the net output of industry as before.

XII

FOREIGN PAYMENTS AND THE NATIONAL INCOME

1. So far as the total amount of the national income is concerned, only one alteration in what we have said has to be made when economic relations with other countries are allowed for; and this alteration is already implied in our study of the national capital. The social capital of a self-contained community consists of the goods possessed by its members; the social income of a self-contained community is derived from the output of labour working on those capital goods. Thus, for a self-contained community, social income equals net social output. But the national capital of a nation may include not only goods but also obligations due from outsiders; in this case, the members of the national community will derive incomes from the interest or dividends on these foreign assets, as well as from the net national output.[1] Or, on the other hand, it may be that the members of the nation have obligations owing to outsiders, on which they have to pay interest or dividends; if so, a part of the net national output has to be paid to outsiders, and only what is left over after these payments have been made remains to form the incomes of the nation's own members.

If the obligations from outsiders are greater than the obligations to outsiders, we say that the nation is a *creditor nation*. A creditor nation has a national capital which is greater than the value of the capital goods used in its own productive process, and it has a national income which is normally greater than its net national output by the net amount of interest and dividends received from abroad. In the reverse case, a *debtor nation* has a national capital less than the value of the goods used in its own productive process (less by the amount of its net foreign *liabilities*); and it has a national income less than the value of its net

[1] Meade and Stone, in the article referred to above (*Econ. Jour.* 1941), prefer to maintain the equality between *National* Income and Net *National* Output by reckoning income from foreign assets as a part of output. Though we have already stretched the idea of output very far, when we included in it such things as the services of houses, the further extension involved in the Meade-Stone definition seems to the present writer intolerable.

often be reached in this way. Calculations of the national incomes of many foreign countries are made in this manner;[1] they vary a great deal in reliability, according to the completeness of the statistics on which they are based. Very good estimates have been made by the production method for such countries as the United States and Sweden; but there are many countries where production statistics, as well as income statistics, are so inadequate that all estimates of their national incomes are more interesting than trustworthy.

A third method, which should perhaps be added to the list, is the *expenditure method*. The social income, on the side of spending, is equal to the value of consumption *plus* saving. An estimate of the value of consumption can sometimes be made by using statistics of retail trade; information can sometimes be got about some, at least, of the channels of saving. If these figures are available, a rough estimate of the national income can be made from them. The expenditure method is less reliable than the other methods, but since its results ought to square with those got by the other methods, it is useful as a check. And estimates of the value of consumption and saving are of course exceedingly interesting in themselves.[2]

We shall examine the results of some of these investigations later; but before we can do so, we must discuss the qualifications to the statement that net national output equals the sum of the incomes of members of the nation. We shall begin with the question of external relations.

[1] The results are summarized in Colin Clark, *The Conditions of Economic Progress*, ch. 2.

[2] The three methods of computation will be found compared in detail in J. E. Meade and R. Stone, 'The Construction of Tables of National Income' (*Econ. Jour.* 1941).

The incomes which compose the national income may be either consumed or saved; but now we must distinguish how they are consumed and how they are saved. The part of income which is spent upon consumption goods may be spent on consumption goods produced at home, or on consumption goods which are imported; we must further remember that even when an article is supplied by a home manufacturer, imported raw materials have often been used in the making of it—not all 'British' goods are as British as they look! It is only such part of the value of these goods as corresponds to the use of home labour and capital which must be reckoned as consumption of home products; the rest must be included among the imports.[1]

This, then, is how consumption is divided up; what about saving? As we have seen in the last chapter, the saving performed during a year corresponds to the additions made to the national capital during that year; but these additions may now take two forms—additions to the equipment of real capital goods possessed by the community (Home Investment) and additions to the foreign assets (Foreign Investment). Further, the capital goods added to the initial equipment may have been produced at home, or they may have been imported.

Thus we have, on the spending side,

National Income = Consumption *plus* Saving = Consumption of goods produced at home
plus
Consumption out of imports
plus
Net Home Investment out of goods produced at home[2]
plus
Net Home Investment out of imports[2]
plus
Savings lent abroad (Foreign Investment)

[1] It is only the materials imported *during this year* which must be reckoned as imported; materials imported in earlier years were part of the initial equipment at the beginning of the year. Thus, so far as this year is concerned, they reckon as coming out of home capital.

[2] The using-up of initial equipment in home production must be deducted from the part of the investment which is produced at home, while any export of initial equipment must be deducted from the Investment out of imports.

national output by the net amount of interest and dividends which it has to pay to outsiders.

The debtor-creditor relationships between different nations have an extraordinary importance in the modern world; changes in them produce vast economic and political repercussions. Before 1914, the great creditor nations were Great Britain, France, and Holland (it was no accident that these were also the great colonial powers); Germany was also a creditor nation, but to a less degree. Among the debtor nations were almost all the Americas, Russia, the British Dominions and India, China and Japan. The results of the War of 1914 were to weaken the creditor positions of Great Britain and France, to transform the United States from a debtor into a creditor, to transform Germany from a creditor into a debtor, and to produce new debtors among the smaller countries of central Europe. Russia defaulted on her debts after the Communist revolution, and Germany ceased to pay on hers at the time of the Nazi revolution. It is too soon (in 1942) to say what results the present war will have on international debts; but already after three years of war, Great Britain has disposed of foreign assets and acquired new overseas liabilities to such an extent as to make it doubtful whether she will be able to retain her position among the creditor nations when the war is over.

Some of the effects of these transformations will appear as we go on; but before we can approach these great matters it is necessary to re-work some parts of the argument of the last chapter, so as to see how foreign trade, as well as foreign obligations, are related to the earning and spending of the national income. Fortunately it will not be necessary to go over the whole ground again; the necessary adjustments can be made fairly easily.

2. Let us go back to the fundamental equations of p. 111. On the earning side we have no alterations to make, excepting that we must allow for the foreign assets and liabilities already mentioned. For a creditor nation, the earning equations will be

Net National Output	=	Wages	=	National
plus Net income from foreign assets		*plus* Profits		Income

The spending side, as usual, is more difficult.

for example, is clearly not a part of income. This new table is therefore a table of the balance of payments, *not* 'on income account'.

Before we can write down a table of the balance of payments in this new sense, one further adjustment is, however, still needed—an adjustment which may be important even in the case of a creditor and lending country. By 'net investment out of imports' we mean the value of goods imported during the year and added to home equipment, *minus* the value of any goods taken from the initial equipment and exported. On the same principle of taking negative items across to the other side of the balance, these exports from initial equipment should be taken across and added to the other exports. When this has been done we shall find that we have got *all* the exports of the year on one side of the balance, and *all* the imports on the other.

The balance of payments equation can therefore be written in the following simple form:

For a creditor-lending country

Imports	=	Exports
plus		*plus*
Net foreign lending		Net income from foreign assets

For a debtor-borrowing country

Imports	=	Exports
plus		*plus*
Net Interest, &c., on foreign liabilities		Net foreign borrowing

The two sides of this equation are *necessarily* equal; the equality between them is absolutely fundamental for the understanding of a nation's international economic position.[1]

4. The balance of payments equation can also be arrived at in another way—perhaps an easier way. As we have seen, the money possessed by a particular person (or firm) at a particular time consists of nothing else but a debt to the holder from his bank (or, in the case of bank notes, from the bank which has issued the notes). Therefore, if an English firm buys cotton

[1] For the senses in which the terms 'favourable' and 'adverse' may be applied to the Balance of Payments, see Appendix, Note D.

Since our equations on the spending side have to square with those on the earning side, the last column must add up to the same total as that of net national output *plus* net income from foreign assets. Now if we look down the list of items appearing in this last column, two of them (the first and third) are obviously themselves parts of the net national output. These two items cover that part of the net national output which is used for home consumption and home investment. When they are subtracted from the net national output, what is left? Nothing but that part of the net national output which is exported.

Thus, if the tables are to square, the following columns must come out equal:

Consumption out of imports	=	Home produce exported
plus		*plus*
Net Investment out of imports		Net income from foreign assets
plus		
Savings lent abroad		

This last is a very important equation: it is called the *Balance of Payments on income account*. With a little rearrangement, it can be turned into a still more important equation, called the *Balance of Payments* without qualification.

3. The balance of payments on income account has been set out in the form which is appropriate for a creditor country which is continuing to lend abroad, so that both the net income from foreign assets and the savings lent abroad are positive quantities. In the case of a debtor country, the net income from foreign assets would be negative; and in the case of a borrowing country, the savings lent abroad would be negative. In these cases it might be more convenient to rearrange the table so as to bring positive items on to each side; the foreign borrowing would then appear on the right-hand side, the interest on foreign obligations would appear on the left.

These adjustments would be convenient, but it should be noticed that if the table was written in this way, the totals to which the columns would add up would no longer be constituent parts of the national income; the foreign borrowing,

involve loans from British banks to foreign banks, and they go a long way towards cancelling out the first set.

It is quite usual for the two sets of bank debts to cancel one another out almost completely. If so, the balance of payments balances, or nearly balances, without the bank lending being taken into account. But the balance still formally balances, even if a net lending by banks (British banks to foreign banks, or foreign banks to British banks) is necessary to settle a difference; for the bank lending *is* lending, so that when *all* lending is included, the two sides must add up to the same figure.

Nevertheless, bank lending or borrowing, necessary to settle differences, is not like other lending or borrowing; when it increases beyond a certain point, trouble arises. For the amounts which the banks of any nation can borrow from the banks of other nations in this way are limited; the limits may vary in different circumstances, but they are always there. If a country is unable to pay for its imports (and for the loans which its citizens are making to foreigners) except by a large amount of such bank borrowing, it is in an awkward position. (It was such a position which Great Britain reached in the autumn of 1931, when the gold standard was abandoned.) To study the means which are available for dealing with such a situation lies outside the scope of this book;[1] though that study is itself a development of the theory of the balance of payments.

5. The balance of payments equation throws a great amount of light upon another range of problems also. When we are concerned with the broad movements of economic history, we need not pay much attention to the balancing loans of the banks, which are only important at moments of crisis. We can write the balance equation

Net Foreign lending =
Exports — Imports + Net Income from foreign assets

and not worry much about the bank lending.

Now consider the position of a country, such as Great Britain must have been at some time in the late eighteenth

[1] They are dealt with in all modern books on money; there is a good brief treatment in Benham, *Economics*, ch. 26; see also Whale, *International Trade*.

(or tobacco) from the United States, the only way in which the import can be paid for in the first place is by giving the American seller a claim on an English bank; the transferring of this claim may take various forms,[1] but the simplest is to hand over a cheque. The cheque is an instruction to the English bank to transfer part of the money which stands to the credit of the English buyer and put it to the credit of the American seller. The result of the transaction is that the English buyer acquires the cotton, and the American seller acquires a claim on the English bank—a debt due to him by the English bank. If the American seller now pays the cheque into his own bank in America, the American bank acquires the claim on the English bank, but has a debt owing to the American seller to set on the other side of its account.

There are thus at least four parties to the transaction—the English buyer, the American seller, the English bank, the American bank. The transactions between the English buyer and the English bank, and between the American seller and the American bank, are internal to their respective countries, so they do not affect the balance of payments. As between England and America, there is the English import of American cotton, and the debt from the English bank to the American bank which offsets it. And that is all. England has imported the cotton, and an English bank has borrowed from an American bank to 'finance' the import.

The same thing happens when anything is imported into Great Britain; it also happens when British people pay interest on foreign liabilities; and it also happens when they lend directly to foreigners (for example, by buying shares in foreign companies). All these things involve loans from foreign banks to British banks.

Most of these loans, however, are speedily cancelled out. For when anything is exported from Great Britain, or when members of the British community receive interest or dividends on foreign assets, or when foreigners buy shares or bonds from British people or from British companies, debts between banks are set up which go in the opposite direction. All these things

[1] The other forms (bills of exchange, &c.) are described in all text-books on money.

if the borrowing is used productively—if it enables the borrowing country to make net additions to its national capital. The national capital of a borrowing country, let us remember, consists of the capital equipment it possesses at home *minus* its foreign debts. If foreign borrowing is spent wastefully, it involves a net loss of national capital, just because debts mount up; but if the borrowing is employed to make additions to home equipment, which are more valuable than the debt outstanding against them, then national capital is actually increased as a result of the borrowing. There can be little doubt that most of the foreign borrowing carried out by overseas countries has been of this type; the British Dominions and even the United States could not have grown as they have done (they could not even have drawn the populations they have done) if they had not borrowed on a vast scale during their period of growth.

The phases of borrowing can be followed through in the same way as the phases of lending. Suppose that a country (which is initially neither a creditor nor a debtor) begins to borrow abroad; then in the first phase its imports will exceed its exports. The additional imports may consist of capital goods or of consumption goods; it should be noticed that the import of large quantities of consumption goods, financed by borrowing, does not necessarily mean that the borrowing is being used unproductively. For the import of consumption goods may enable the country's own labour force to be turned over to the production of new capital equipment; if the consumption goods had not been imported, they would have to have been produced at home; if they do not need to be produced at home, the factors of production which might have produced them can be used to make additions to equipment. In a practical case, when a country borrows to build a railway, the additional imports consist partly of railway equipment produced abroad, partly of consumption goods supplied to the workers who are installing the equipment or doing the other parts of the construction which have to be done on the spot. Or perhaps the rearrangement of production is even more complicated; but the principle remains the same.

The second phase on the borrowing side comes when the

century, which is neither a creditor nor a debtor country to any considerable extent. If such a country lends abroad, it can only do so by exporting more than it imports. This is the first phase of lending. After it has lent abroad for a number of years, the interest on its past loans will begin to amount to a considerable sum, so that if it is to retain a surplus of exports over imports, it must lend abroad more than ever. Even if it goes on lending abroad, but lends less than the amount of the interest on its past loans, imports will become greater than exports. This seems to have been the usual situation of Britain after 1850; she was still lending abroad, still adding to her foreign assets; but her new lending was usually rather less than the interest on her old loans, so she had a surplus of imports over exports.

Now suppose that as a result of some emergency, such as a war, the country which had been lending abroad begins to borrow abroad, or to sell off its foreign assets. During the war, since net foreign lending is negative, and net income from foreign assets is still positive, the excess of imports over exports becomes much larger than usual. But this excess of imports is paid for by giving up foreign assets; if the loss of foreign assets is large, net income from foreign assets will be much reduced when the war is over; consequently the country will be unable to lend abroad and build up its foreign assets at the old rate, unless it manages with a smaller excess of imports over exports than it did in the past. Something like this seems to have been the situation of Great Britain between 1919 and 1939; during these years her net foreign lending was very small indeed. It will be observed that if the loss of foreign assets had gone even farther than it did, so that there was no net income from foreign assets any longer, the country would only have been able to lend abroad, and so build up its foreign assets again, if it could secure an excess of exports over imports, as in the first phase.

So far we have considered the position of a lending country, which only borrows in an extraordinary emergency; but for every lender there must be a borrower—where could the normal lending of the earlier phases go to? It is perfectly reasonable and sensible for a country to borrow abroad as a normal policy

be more willing to lend) if the government of the lending country can influence the government of the borrowing country to see that the debts due to its citizens are respected. But such pressure is often resented, and sometimes resisted—even Russian Communism was originally, in one of its aspects, a revolt against the 'tyranny of international capital'. When the citizens of a strong country lend to those of a weaker, international lending may be the forerunner of Imperialism. It is hard to be fair in these matters; but if Imperialism is the bad side of international lending, it may also be claimed that productive lending is one of the good sides of Imperialism.

The great wars of the twentieth century have caused vast dislocations in the international debt structure. War debts are more disturbing than most other debts; they arise so suddenly that industries have no time to be adapted to them, and they are accompanied by no increase of productive power in the debtor countries. The case of Germany in the nineteen-twenties is a celebrated example. As a result of the foreign liabilities imposed on her by reparations, and by the interest on loans which she had raised to restore her working capital after the ravages of war and post-war mismanagement, she found herself (by 1928–9) under the necessity of creating a surplus of exports over imports, without having the time or opportunity to reshape her industrial system so as to be able to create that surplus in a tolerable way. The corresponding adjustment in the United States, though in the opposite direction, likewise created difficulties. The natural consequence of America's newly acquired position as a creditor would have been the creation of an import surplus; but her manufacturing interests struggled against any tendency to an increase in imports, her agricultural interests were threatened with ruin by a fall in exports; the balance of payments was inexorable, so an absurd way out (which caused the maximum of inconvenience to the rest of the world) was found by importing gold. It would have been far better, both for America and for other countries, if she had taken the opportunity to become a great international lender, as she could well have afforded to do. But her first efforts in that direction were unlucky; and having burned her fingers, she retired into her shell.

interest on past borrowings mounts up; then (exactly as in the lending case) the country will have to borrow even more rapidly than before if it is to retain a surplus of imports over exports. If the rate of borrowing falls off, or fails to expand, sooner or later a point must be reached when exports must exceed imports. In practice, this point always is reached after a certain time.

If the borrowing has been used productively, the excess of exports over imports can generally be brought about with very little trouble. For the increase in capital equipment will have increased the nation's productive power; the production of goods is increased, and out of this increased production, extra goods can be spared for export without any great sacrifice. We do in fact observe that in the latter years of the nineteenth century, when the second phase was reached by a large number of debtor countries, their exports (particularly their exports of raw materials and foodstuffs) expanded notably. Out of these exports they paid the interest on their debts, but they were able to pay and still to enjoy a mounting prosperity.

Productive lending and borrowing, as we have been describing it, is a profoundly beneficent process. Without the international lending of the nineteenth century the productive powers of the borrowing countries could hardly have been developed at more than a snail's pace; and without the development of production in new lands the older countries would have lacked the foodstuffs and raw materials which have enabled them to support rising populations at rising standards of living. It is highly probable that the economic opportunities for such productive lending are far from exhausted; the mass of poverty in China and India still needs a vast increase of capital equipment if it is to be remedied, and it is unlikely that the peoples of those countries will be able to provide it from their own savings within any measurable period.

We should never forget, however, that international lending leads to political difficulties which do not arise from internal lending. The fact that borrower and lender live under different governments and different legal systems may make the obligation from borrower to lender harder to enforce; thus international lending will often proceed more smoothly (lenders will

XIII

THE STATE AND THE NATIONAL INCOME

1. THE second set of qualifications to the principle that the sum of incomes equals the net value of output relates to the economic activities of the State. The government of a nation is a particular part of the nation's organization; its primary function is to protect the community against internal disorder and external aggression. To this primary function many other functions have in the course of time been added; but it is in the field of 'Justice, Police and Arms' (to use the language of Adam Smith) that a government's main responsibility still resides. Let us begin by considering some of the economic aspects of these central activities of government, and then pass on to deal with the other functions.

For the purpose of maintaining law, order, and defence, the State has to employ a large number of people (soldiers and sailors, policemen, judges, civil servants) and to purchase goods for them to use, goods which range from battleships to writing-paper. In order to cover its expenditure in these directions it raises taxes—that is to say, it levies compulsory contributions upon its citizens or subjects. How do we fit this revenue and expenditure of the Government into our account of the earning and spending of the national income? The usual way of doing so is to say that the people who work for the government in these ways are working, like others, to satisfy the wants of the community;[1] that when the government pays them their wages, it is acting as agent for its citizens, who are the ultimate employers, and whose contributions to taxation are therefore essentially similar to their ordinary spending. The suggested analogy is that of a voluntary association. When the secretary of a golf-course employs greensmen to keep the turf in order, he is acting on behalf of his members; the funds are provided by the members' subscriptions, and there can be no doubt that the subscriptions paid by members are part of their ordinary

[1] Though the wants are collective wants, not individual wants, such as are satisfied by the work of other people (see above, p. 20).

6. Before concluding this chapter, one final remark of some importance needs to be made. I have throughout used the words *imports* and *exports* to mean *all* goods and services sold by members of the nation to outsiders or bought by them from outsiders. This is the natural economic meaning. But before we can apply our reasoning to the published statistics of imports and exports, a warning is necessary. The imports and exports recorded in the statistics are only those which pass under the noses of customs officials at ports or customs houses; but not all the things which are imports or exports in the economic sense do so. The imports and exports which are recorded by the customs officials are called *visible;* the others are called *invisible.* A very important invisible export of Great Britain is the transport by shipping which British sailors perform for outsiders; another is the insurance done for foreigners by British insurance companies; neither of these get included in the official statistics of exports. Another invisible export is the services performed for foreign tourists. When Americans travel in England, England is (invisibly) exporting; when Englishmen travel on the Continent, England is (invisibly) importing.

of the night-watchman are not treated as an independent part of the national output; they are included in the goods which the labour of the night-watchman helps to produce (by ensuring that the process of producing them continues without interruption). One would suppose that when the public services perform similar functions to this they ought to be similarly reckoned; and there can be no doubt that to do so would be the ideal arrangement. If, as the result of an epidemic of shop-breaking, a local authority decides to pay its policemen to stay on duty for longer hours, are we to say that the social output has increased, because of the additional output of policemen's services? Surely it would be much more sensible to put it that the additional labour is needed to produce the same net output of useful goods. It would be much more sensible to put it like that; but it is unfortunately quite impossible to say how much of the work of the police and defence forces is directed towards the protection of life and liberty and personal possessions, and how much is concerned with the protection of the productive process. Being unable to draw a line, British statisticians have invariably decided to neglect the assistance given by the public services to the production of other goods; they treat the whole of the public services as direct services, ministering to consumers' wants in the same way as consumption goods do.

In practice, there is nothing else for it; but we ought to be aware that the solution is unsatisfactory, and to be prepared for some awkwardness in its consequences. The most notable awkwardness concerns the calculation of the national income in time of war. The expansion of the armed forces which takes place in war time is an expansion of the public services; if we regard the public services as satisfying consumers' wants directly, we are obliged to regard the men who are in the armed forces or the munition industries as producing things which consumers are willing to accept as substitutes for the ordinary goods and services of peace-time. Thus, in spite of the reduced supply of peace-time goods, consumers are not shown to be appreciably worse off. The national income is not diminished. This way of looking at the situation might have some plausibility if it was applied to an aggressor nation, which willingly accepted guns for butter, and glory for cakes and ale; but the

spending. It is perhaps a little dangerous to use this analogy for the case of the State and its taxes, since the State is a compulsory association, not a voluntary one. People have to pay taxes whether they like it or not, and cannot easily protect themselves against what they consider unjust treatment by the State, simply joining another club instead. The problem of achieving some degree of fairness in the distribution of taxation among different people is much more urgent in the case of the State than the parallel problem is in a voluntary association. But the existence of this problem does not prevent us from regarding the taxes, which are levied to pay for the public services, as being economically analogous to club subscriptions

There is, however, the further question: are the services which maintain order and defence to be regarded as services which satisfy the wants of consumers directly, or are they to be regarded as facilitating the production of other sorts of goods and services? If we accept the first alternative, then we must say that the public services are an additional part of the national output, which we have not reckoned previously; but if we adopt the second, then they are merely a part of the process of producing those same goods which we have previously taken into account. Now there would seem to be good reasons for supposing that the public services are partly one and partly the other.

The wicked millionaire, whose well-deserved murder has served as the theme of so many detective stories, often employs a private bodyguard; if we met such a case in real life, we should have no hesitation in saying that the wages paid to the bodyguard are part of the millionaire's consumption expenditure, just as much as the wages paid to his butler. Most of us are contented to satisfy our more modest wants for personal protection by relying upon the police and other governmental defence forces; it seems reasonable that our expenditure on this protection, through the taxes we pay, should be reckoned as a part of our consumption expenditure in a similar manner. But now consider the case of a firm, which (instead of trusting to the police to see that its goods are not stolen) employs a night-watchman; in this case the wages of the night-watchman are included as part of the cost of the firm's output. The services

is concealed in practice because the taxation which goes in debt interest is not separated from the taxation whose proceeds are spent on public services. But it is the true economic incomes which add up to the national income, not the nominal incomes. If we assume that the government is balancing its budget (total government receipts *equal* total government expenditure), the interest on the national debt is fitted into the account of the national income in the following way.[1]

National Income
= Total of nominal incomes—Interest on national debt
= Private expenditure (on consumption and investment)
+Taxation—Interest on national debt
= Private expenditure+Expenditure on public services
= Net national output

The national income still equals the net national output (apart from foreign indebtedness); but the total of nominal incomes is greater than the national income.

We can assure ourselves that this treatment is correct by the following considerations. If businesses owe debts to foreigners, then we know that the interest on those debts must be deducted before the incomes arising out of the business are arrived at; consequently this interest is deducted before arriving at the national income. If a part of the national debt is owed to foreigners, then on the same principle the interest on that debt ought also to be deducted; but it has not been deducted when we take the total of nominal incomes; it only gets deducted when the taxes are paid. As for that part of the interest on the national debt which is paid to fellow-nationals, it reckons as part of the nominal incomes of the people to whom it is paid; if we reckon it into the incomes of the people to whom it is paid, and also into the incomes of the people who pay it,[2] we are reckoning it twice.

[1] It is implicitly assumed in these equations that all the taxes are *direct* taxes (such as income tax); for some of the problems raised by *indirect* taxes (taxes on commodities) see below, p. 145, and Appendix, Note E.

[2] Since the receivers of national debt interest also pay taxes, the classes of receivers and payers overlap to an appreciable extent. Income derived from interest on the national debt is usually liable for income tax; if the rate of income tax is high, the government may take back with one hand a considerable part of what it pays out with the other. This has been of particular importance in the history of Great Britain since 1919; it helps to explain why the national debt has not given more trouble than it has in fact.

position of a nation engaged in a defensive war would surely be described better in another manner. If we were allowed to say that the import of goods from overseas is rendered more costly, not only because of the loss of ships from enemy action, and because of the extra time spent in dodging submarines, but also because of the need for a large navy to ensure that these losses are not even greater; if we were allowed to say that the production of goods at home is rendered more costly, not only by the actual losses from air raids, but also because of the need for guns and aeroplanes to repel air attack; if we calculated the national income in war-time on this basis, we should find that the nation is much poorer in war than it is in peace, which surely corresponds much better with the facts. But we are not allowed to say these things, once we have agreed to treat the public services as a direct part of consumption; and so we must be prepared for the results we get.

2. A large part of the extra expenditure which falls upon governments in war-time is financed out of borrowing, not out of taxation; once we have decided to regard the public services as a part of consumption, we are obliged to treat war borrowing as analogous to a spendthrift's borrowing for consumption purposes. When the war is over, the government will find that it is left with a national debt on which it has to pay interest (most national debts are the legacies of past wars); but no capital goods have been acquired by means of the war borrowing, so there are no profits out of which the interest on the national debt can be paid, as is the case with the debts of firms. Extra taxation has to be raised each year to meet the interest on the national debt; and this extra taxation cannot be regarded, like the taxation raised to pay for the public services of the year, as a form of consumption expenditure, for which the State acts as the taxpayers' agent. The consumption for which the debt was incurred is over and done with; consequently we ought to regard each taxpayer as having to meet his share of the debt interest, before his true economic income—the income which is at his disposal for saving and consumption (including consumption of public services)—can be arrived at. This difference between the true income of the taxpayer and his nominal income

fore raise its capital a little more cheaply than a private firm can do; but this does not necessarily mean that it will produce more cheaply, for it is only too easy to throw away such an advantage by using larger amounts of the factors of production per unit of output.

There is one important socialized industry which is in a different category. The provision of roads is nearly always socialized, this time for a very obvious reason. Private enterprise could only charge for the use of a road by imposing tolls, and toll-gates are an intolerable nuisance. For the same reason, the public authority cannot charge for the use of roads directly, but must finance its expenditure on roads out of taxation. We must, therefore, regard roads as a public service in the same class as order and defence. The same problem arises over roads as arose over those other public services: are they consumption goods in their own right, or do they assist in the production of other consumption goods? Once again the answer must be that they are partly one, partly the other; but once again there is no means of distinguishing between private and commercial uses, so we have to write down the whole of the upkeep of roads as a form of consumption expenditure, for which the government acts as agent. The construction of new roads, on the other hand, is clearly Investment; when the British Government finances the building of new roads out of taxation (as it has usually done) it imposes upon the community a form of compulsory saving.

4. Most of the remaining functions of government are what is known as 'social' in character. The function of Poor Relief was first taken over by the State from the Church at the time of the Reformation; but partly as the result of the growth of a social conscience, partly because of the increasing political power of the beneficiaries, the things done by the State with the direct object of improving the position of the less well-to-do have increased enormously during the last hundred years, and particularly within the present century. Public health, education, and unemployment relief are major items in the expenditure of the British local authorities; the central government shares in these, and adds expenditure on housing and old-age

For if a larger amount of interest had to be paid on the national debt, the incomes of the bondholders would rise, and so the nominal incomes of all the community taken together would rise; but in fact the community would be no better off, since the higher incomes of the bondholders would be nothing else but income taken away from other people. Interest on the national debt is not part of the national income; even if the debt is held internally, the payment of interest only has the effect of transferring income from one section of the community to another.[1]

3. We must now turn to the other functions of government, which are not related to the central functions of law, order, and defence. In the first place, we have the socialized industries. The scope of socialization varies a great deal between one country and another, the reasons being partly 'ideological', partly mere convenience. There is a distinct tendency for the industries which are selected for socialization to belong to a distinctive group. The post office is socialized everywhere; many countries (though not Britain) have socialized railways; then there are the so-called 'public utility' industries of water, gas, and electricity. As regards these latter, the British practice is various; the public utility undertakings operating in a particular district are sometimes owned by the local authority, sometimes not. It is an interesting question why these industries should have a particular tendency to be socialized—or, if not actually socialized, to be brought under particularly stringent state control—but we cannot go into that question here.

The socialized industries fit into our scheme of the national income without any difficulty; we treat them just as we treat other industries. Like the products of other industries, the products of the socialized industries are sold; the receipts from these sales go to cover costs in the usual way, and to pay interest on the capital employed. Since it is always possible for a deficit on the running of a public undertaking to be met out of taxes, the whole of the capital needed for it can be raised by borrowing; there are no ordinary shares. A public undertaking can there-

[1] If the national debt were to be cancelled out by imposing a capital levy, nominal incomes would be reduced, and so would the sums paid in taxes; but true incomes (and thus the national income) need not be directly affected.

way, that makes no more difference to the classification than was made by our millionaire's bodyguard. A large part of social expenditure is thus to be regarded as expenditure on public services, in the way with which we are already familiar.

There is, however, another part of social expenditure which is not spent directly on public services, but is handed over to the beneficiaries for them to spend themselves. Old-age pensions and most unemployment assistance are of this type. Now if we regard these cash benefits and pensions as income of the recipients, we must not also regard the money which is spent on them as part of the incomes of the taxpayers or contributors from whom it is collected. It does not matter very much whose income we reckon it to be, so long as we do not reckon it twice. If we like, we can say that the government takes away a part of the incomes of the contributors and transfers it to the pensioners; if so, we reckon the pensions as true incomes of the pensioners, while the true incomes of the contributors are less than their nominal incomes. Or perhaps it is better to say that the contributors are compelled to save some parts of their incomes and to pay them into a pension fund, while the government borrows these savings and transfers them to the pensioners, who are thus enabled to spend in excess of their true incomes.[1] In either case, we have a distinction between true income and nominal income, just as we had in the case of the national debt. *Transfers* due to either cause have got to be deducted from the total of nominal incomes before the national income is arrived at.

[1] This latter way of putting it is distinctly more convenient in cases (such as that of Britain in 1931) when the government's payments in unemployment relief are in excess of the contributions and tax receipts available to finance them, so that special borrowing is necessary. The same approach is also convenient for dealing with such questions as that of superannuation funds. It should be noticed that if a person saves part of his income in one year, and spends these savings in the next year, he is spending in excess of his income in the second year.

pensions. The 'social' element in British public expenditure was at its highest, relatively to other elements, in the early nineteen-thirties, when it was swollen by the abnormal unemployment and when military expenditure had not yet begun to rise in preparation for the storm which broke in 1939. Thus in the year 1934, central and local authorities together were spending almost exactly £1,000 millions[1] which had to be covered out of taxes and local rates, and nearly half of it was social expenditure. The main heads were:

	£ millions
Law, order, and defence . .	216
National Debt	224
Roads	60
Social Expenditure . . .	470

Not by any means the whole of this social expenditure should be regarded as money taken from the relatively wealthy, and used for the advantage of the less wealthy; all classes make some contribution to taxes, and a considerable part of the social expenditure is distributed through insurance schemes, to which the same people, who benefit when they are in need, make contributions when they can afford it.[2] Yet whatever allowance we make for these contributions, the fact remains that its 'social' activities are now a major part of the functions of government.

'Social' expenditure has a very different social and political significance from that of the other functions of government which we have been discussing; but when we come to fitting it into our account of the national income, we find that it will go into the old compartments, though it has to be divided between the compartments. When the State employs teachers or doctors, it is organizing a service for the community in the same way as when it employs policemen or soldiers; if some members of the community do not take advantage of the public health or education services, but prefer to satisfy their own wants in another

[1] The £200 millions spent on operating socialized industries, recovered by selling the products of those industries, is not included. For further details, see U. K. Hicks, *The Finance of British Government*, ch. 2.

[2] The cynical comment on these insurance schemes is that they are a means of making it look as if there is more social expenditure for the benefit of the less wealthy than there really is; on the other hand, it may be argued that the insurance device has a real social advantage, for it enables the beneficiary to receive his benefits as a right, and not as 'charity'.

lible, but they have advantages in the sources of information open to them. The White Paper gives us figures for the expenditure of the national income, as well as for its earning; thus we now have fuller and probably more reliable information about the year 1938 than about any other year. It was not a particularly normal year, since production was much affected by rearmament, and there was the political interruption of the Munich crisis. But the sources of information at our disposal make it much the most convenient year to choose as an illustration.

2. The sum total of the nominal incomes of all persons, firms, and institutions (including the income derived from property possessed by non-profit making bodies, such as churches, colleges, hospitals, and trade unions, and including also the income derived from property possessed by public bodies such as local authorities and even the central government itself) came out in 1938 to £5,095 millions. In order to deduce the national income from this figure, it is necessary to subtract £500 millions of transfers—interest on national debt (£220 millions), with pensions and social service benefits paid in cash (£280 millions). When these deductions have been made, the national income comes out at £4,595 millions, of which approximately £2,870 millions were labour earnings in the form of wages and salaries, £1,725 millions were profits and rents.

Proportions of this sort (60–65 per cent. of the national income going in wages and salaries, the remainder in profits and rents) seem to occur very commonly in other times and places. But it must not be supposed that this proportion accurately represents the division of the national income between capital and labour. It does not even represent the division between earnings of labour and earnings of capital. All those people who work on their own account, not for wages or salaries, but directly to satisfy the wants of their customers or clients, have their incomes put down as profits in this calculation, although it may very well be that the major part of their incomes is earned by work done, only a small part by the use of capital. Important members of this class are such people as doctors and lawyers, also farmers, also retail shopkeepers. It is impossible to estimate at all exactly what proportion of their incomes these people derive

XIV

THE BRITISH NATIONAL INCOME IN 1938

1. We have now reached a point where it will be useful to look at some figures, so as to see how the calculation of the national income comes out in a particular case. As was stated above,[1] estimates of the British national income have generally been made from the income side. The total of all incomes assessed to income tax is known, and the total of wages can be estimated from wage statistics; there are some incomes which slip through both of these nets, and there is some overlap, but methods for dealing with both of these discrepancies more or less adequately have been elaborated. In this way the total of nominal incomes is reached; when proper deductions have been made for the transfers described in the preceding chapter, a figure for the national income has been attained.

The first estimate of the British national income which attained a modern standard of accuracy was made by Professor Bowley for the year 1911. A further estimate, by Bowley and Stamp, was made for the year 1924. These two investigations have been the models for all later work.[2]

A series of estimates, for the years 1924–35, was published by Mr. Colin Clark in his book *National Income and Outlay*. Professor Bowley's estimates for the years 1924–38 are now available in his *Studies in the National Income* (1942).

Finally, for the year 1938, alone of pre-war years, we have an official estimate, published as a basis for the consideration of war finance in the White Paper[3] which was issued for the first time in connexion with the budget of April 1941. It must be emphasized that an official estimate of the national income is only an estimate like other estimates. Its authors are not infal-

[1] p. 119.

[2] They have been reprinted in Bowley and Stamp, *Three Studies on the National Income* (London School of Economics reprints, 1938).

[3] *An analysis of the sources of war finance and an estimate of the National Income and Expenditure in 1938 and 1940* (Cmd. 6261). The 1938 figures are rearranged and revised in the 1942 White Paper (Cmd. 6347, price 4*d*.), which I have followed here. The most important difference between the estimates made in 1941 and 1942 is discussed in Appendix, Note C.

of all these sorts ought to be deducted; nevertheless, before we decide to deduct the whole £1,225 millions we must give the matter some further thought.

One of the ways in which the government raises its revenue is by levying taxes (the so-called *indirect* taxes) on the purchase and sale of particular goods and services. A large part of the price of cigarettes (for example) is really tax; when a person buys cigarettes he is buying consumption goods and paying taxes at one and the same time. If therefore we add together the amounts which people spend on consumption goods, the amounts they save, and the whole amount they pay in taxes, we shall find that the total comes out to more than the total of their incomes; for we shall have counted the indirect taxes twice. There are two ways of avoiding this double counting. One is to reckon among the taxes paid only those taxes (*direct* taxes, such as income tax) which do not enter into the prices of the goods purchased; this shows us the way in which people's incomes are actually spent. This is the way which we shall follow for the present. Later on, however, we shall need to make use of another way. This is to subtract the indirect taxes from the prices of the goods purchased, thus reckoning the value of those goods, not at the price the consumer pays, but at the price *minus* tax. The prices at which consumers' goods are valued on this plan are equal to the wages and profits generated in producing them—that is, to the cost of the factors of production engaged in producing them. Thus it is usual to say that the goods are valued at *factor cost*. The price the consumer pays is equal to factor cost *plus* tax.[1]

If we are valuing at the prices the consumer actually pays, we must only deduct the *direct* taxes. These came in 1938 to £580 millions. The total amount which has to be deducted from our original £5,095 millions is thus:

	£ *millions*
Government profits . . .	60
Direct taxes	580
Undistributed profits . .	290
	930

[1] If an article is subsidized by the government, so that the government pays a part of its cost of production (there were only a few cases of this in 1938), then the price the consumer actually pays equals factor cost *minus* subsidy.

from their labour, and what proportion from the use of capital; but a careful estimate made for this book would suggest[1] that the 'profits' which are really earnings of labour may amount to as much as £375 millions. If this is correct, and it cannot be far away from the mark, the division of the national income should come out as follows:

Earnings of Labour . .	£3,245 millions
Profits of Capital . .	£1,350 millions
	£4,595 millions

Approximately 70 per cent. of the national income was earnings of labour, 30 per cent. was profits of capital.

This is the way in which the earning of the national income was divided; but it must not be supposed that the whole of the 30 per cent. went into the pocket of the private capitalist for him to spend as he liked. There are several adjustments which have to be made before we can tell how much of these earnings and profits were available to private people for their own consumption and saving.

3. Let us go back to the £5,095 millions of nominal incomes, and inquire how much of that total was left in the hands of private people for them to spend or save as they chose. There are three deductions which have to be made. In the first place, we have to deduct the profits and interest which accrue to the government (central and local) from property in its possession. This is not normally a large amount, but it has to be allowed for. In 1938 it was about £60 millions. Secondly (and this is a much more delicate matter) we have to make an allowance for taxation due to the government. Thirdly, we have to deduct the undistributed profits, which were not handed over to private shareholders, but remained in the hands of the firms which had earned them. These amounted to about £290 millions.

How much must we deduct for taxation? The total of all taxes due to the government in 1938 was £1,225 millions. (This figure includes all taxes, central and local; it also includes contributions to social insurance. It is thus considerably larger than the figure for receipts from taxation which the Chancellor of the Exchequer showed in his budget.) It is clear that taxes

[1] For further details, see Appendix, Note E.

4. We must next consider the utilization of those sums which were set aside as savings or taken by the government.

Of the £415 millions of personal and business savings, nearly the whole (£405 millions) was used for making additions to business capital (what we may call Private Investment). These sums were either used directly by the firms which had set them aside, for making additions to the equipment of those firms; or they were borrowed by firms and used in similar ways. There was a small residue (about £10 millions) which was borrowed by the government. (This small sum in 1938 was of course the forerunner of much greater sums in the years which followed.)

The funds at the disposal of the government were thus: (1) £60 millions of profits from the property in its possessions; (2) £1,225 millions from taxation; (3) £10 millions borrowed out of the savings.[1] This makes a total of £1,295 millions. Of this total £500 millions were spent (as we have seen) on the transfers—interest on national debt, pensions, and social cash benefits; £15 millions were spent in subsidizing certain consumers' goods; the remainder (£780 millions) was spent on goods and services, needed for the satisfaction of collective wants.

Thus we get the following equivalent ways in which the national income can be divided up:

TABLE VI. *National Income of Great Britain (1938) (£ millions)*

Nominal incomes	5,095	Consumers' expenditure	4,040	Consumers' expenditure	4,040	Consumers' expenditure	4,040
		plus Net personal saving	125	*plus* Private Investment	405	*plus* Private Investment	405
		plus Undistributed profits	290				
		plus Government profits	60				
		plus Taxation	1,225	*plus* Government expenditure	1,295	*plus* Government expenditure on goods and services	780
less Transfers	500	*less* Transfers	500	*less* Transfers	500	*less* Indirect taxes (net)	630
		less Indirect taxes	645	*less* Indirect taxes	645		
	4,595		4,595		4,595		4,595

[1] Another source of funds, which some people might include, but which is probably better not included here, will be discussed on p. 152 below.

After deducting this £930 millions, there remains £4,165 millions for private expenditure and saving.

	£ *millions*
Spent on consumers' goods (including indirect taxes[1]) . .	4,040
Net personal saving . . .	125
	4,165

£125 millions seems a small figure for saving, but it is perhaps not so small when we remember just how the figure must be interpreted. In the first place, we have no information which enables us to divide the consumers' goods purchased into consumption goods and consumers' capital goods (such as motor-cars), so they are all included together as consumers' goods. It would be desirable to reckon the purchase of consumers' capital goods as a form of saving; but as we do not possess the information which enables us to do so, we have to include them with the other consumers' goods, and cannot reckon them as saving.

Then there is another reason why the figure of £125 millions underestimates the amount which private people actually saved out of their incomes. The total savings of private people were more probably about £215 millions;[2] but nearly £90 millions of this was used up in the purchase of property from people who were obliged to dispose of it for the payment of Death Duties. The result of the death duties (in that particular year) was that £90 millions' worth of property changed hands, but £90 millions which would otherwise have been available (or so it might appear) to be included in the savings figure was taken in taxation instead. This it is which reduces the figure for *net* personal savings to £125 millions.

Finally, we must remember that from the point of view of the community as a whole, personal savings are not the only (or even nowadays the most important) form of savings. The funds set aside in undistributed profits are also saved. Thus total savings, by persons and businesses together, came to the much more impressive figure of £415 millions.

[1] Indirect taxes here include local rates, which are a tax on house rents. The services of houses reckon of course among the consumers' goods purchased.

[2] All these figures for saving are particularly doubtful, since they are arrived at only as a consequence of the other figures.

TABLE VII. *National Income (1938) at Factor Cost (£ millions)*

Earnings of Labour .	3,245	Private expenditure on consumers' goods . . .	3,455
Earnings of Capital .	1,350	Private investment . .	395
		Government expenditure on goods and services . .	745
	4,595		4,595

This is economically the most significant way of drawing up the accounts of the national income.

5. Looking at this last table, it would appear that little more than three-quarters of the national income was ultimately spent upon consumers' goods for private use, the remaining quarter being used to purchase investment goods for business purposes, or to finance government expenditure. The investment and the government expenditure have both of them to be paid for out of the incomes listed in the left-hand column. It is natural to ask: were they predominantly paid for out of labour incomes or out of capital incomes? Alternatively, we may put the same question another way: how were the consumers' goods divided between the receivers of labour incomes and the receivers of capital incomes? This is the really interesting question from the standpoint of social equity—much more interesting than the way in which the total incomes (large portions of which could not be used for personal consumption) were divided. We shall attempt to give an answer to this question; it is not possible to give a precise answer, but a rough guess can be made.[1]

As before, when we are concerned with expenditure on consumers' goods, it is best to start from nominal incomes. In order to get the nominal incomes of private capitalists, we must take the earnings of capital as set out above, add that part of the transfers which accrues to capitalists (this is undoubtedly the £220 millions of interest on the national debt), and then subtract the government's income from capital (£60 millions). It

[1] It should be noticed that the question itself is not a very precise one. Most people who receive incomes from capital also receive incomes from labour. If they save part of their incomes, who is to say whether it is the labour part or the capital part from which the savings come?

In the first of these columns we see the national income as the sum of nominal incomes *minus* the transfers. In the second column the nominal incomes are divided up as the receivers of the incomes dispose of them. (This division corresponds with that which we set out on the preceding page; only here, instead of including only the direct taxes, we have included all taxes, and deducted the indirect taxes below. Clearly this comes to the same thing.) In the third column, the savings, taxation, and government profits, which appear in the second column, are transmuted into investment by businesses and expenditure by the government. In the fourth column a part of government expenditure is cancelled out against the transfers,[1] so that we see the national income divided up among the consumers' goods, investment goods, and public services, upon which it is ultimately spent.

But even in this last column we still have one loose end—the indirect taxes. These still remain over because the goods and services included in the last column are valued at prices which include the taxes levied on them. If we are to avoid this double counting, and to reckon the various goods at prices which correspond to the amounts of factors of production used in producing them, we must cancel out the indirect taxes, and value the goods and services at *factor cost*.[2] Since some indirect taxes are paid on investment goods, and some even on the goods purchased by the government (which thus pays taxes to itself[3]), the indirect taxes have to be allotted among the different classes of goods, and this cannot be done at all exactly. A probable division[4] is shown in the following table, which shows the national income measured on the one side as the cost of the services of labour and capital used in producing it, and on the other side divided into the consumers' goods, investment goods, and public services which are the result of the process of production, and on which the national income is spent.

[1] The small government expenditure on subsidies is also cancelled out against a part of the indirect taxes; so the remaining indirect taxes are *net*.

[2] See further, Appendix, Note F.

[3] This is particularly likely to arise because some of the taxes are paid to different authorities. For example, one local authority may pay rates to another for property which it owns in the other's area.

[4] See White Paper (1941), note at bottom of p. 15; also Kaldor in *Econ. Jour.* 1941, p. 186.

TABLE VIII

The Division of Expenditure on Consumers' Goods (£ millions)

	'Labour'	*'Capital'*	*Total*
Nominal incomes	3,590	1,445	5,035
less Direct taxation	175	405	580
less Saving	125	290	415
Expenditure on consumers' goods (at market prices)	3,290	750	4,040
less Indirect taxes	485	100	585
Expenditure on consumers' goods (at factor cost)	2,805	650	3,455

It will be understood that some of these figures are no more than guesses, but it does not appear that any probable correction could make any important difference to the result. If we put the essential figures into very round numbers they may be easier to grasp. Let us measure the national income in 1938 by 46 points. On the earning side, 13½ of these points were profits of capital, 32½ were earnings of labour. If, however, we look at the ultimate destination of the goods and services composing the national income, then we have 7½ points taken by the government, 4 points representing additions to capital equipment, 6½ points of consumers' goods taken by private capitalists, and the remaining 28 points representing consumers' goods bought out of the earnings of labour.

The proportion of consumers' goods purchased by private capitalists (and we must remember that people who live on incomes from small savings reckon as capitalists) appears to have been a little under 20 per cent.

6. As a last step, let us consider the national income of 1938 in its external relations. The White Paper does not go into much detail on this side, but it gives us one or two useful figures. The rest can be fitted in by using the official estimate of the balance of payments.[1]

Up to the present, we have included the net income from foreign assets among the profits of capital. When it is separated out, it apparently comes to about £200 millions[2] (including in

[1] *Board of Trade Journal*, February 1939.

[2] This estimate is considered by some authorities to be rather on the high side.

would also seem right to subtract the £65 millions which was the income of non-profit making bodies, since little of this would accrue to the kind of people one thinks of as 'capitalists'. With these adjustments, the nominal incomes of private capitalists would come out to a total of £1,445 millions.

On the labour side, we have to add the rest of the transfers (pensions and social insurance cash benefits, almost all of which accrue to people one usually thinks of as included in *labour*). We may also add the income of the non-profit making bodies.[1] The total nominal incomes of labour then come out to £3,590 millions.

From these nominal incomes of capital and labour we have to deduct contributions to direct taxation and to saving, in order to discover how the £4,040 millions of consumers' expenditure (at the prices actually paid) were divided between expenditure out of labour incomes and expenditure out of capital incomes. We have then to consider how the burden of indirect taxes was divided, in order to get the division of the £3,455 millions of consumers' expenditure at factor cost.

It is fairly safe to estimate[2] that direct taxes were paid out of capital incomes to the extent of about £405 millions. Saving is much more doubtful, but it does not seem likely that the personal savings of capitalists can have been more than sufficient to offset their payments of death duties (even this may be an overestimate. The whole of the net personal savings (£125 millions) may thus be ascribed to 'labour'. On the other hand, the whole of the £290 millions of undistributed profits must be regarded as savings out of capital incomes (since we have not accounted for them already). The division of indirect taxes on consumers' goods is exceedingly uncertain, but it is clear that much the larger part must have been paid out of labour incomes. Something like the following table thus seems reasonable:

[1] It is difficult to be quite sure what one should do with the part of these institutional incomes which is used for providing essentially collective goods, like the services of research workers. Obviously they do not accrue in any special sense to 'labour'. Yet they do not accrue to 'capital' either, so that it is right to move them over if we want to discover the proportion of the total output of consumers' goods which goes to the capitalist.

[2] See again Appendix, Note E, for some justification of the figures in this paragraph.

£55 millions of government expenditure, which the government paid for by selling off to foreigners a part of the gold in its possession.[1] The goods which the foreigners provided in exchange were partly materials, needed directly for the armaments programme, partly ordinary imports bought by the people who were paid by the government to produce at home extra goods needed for the same purpose. This was an easy way of financing additional government expenditure. The country could acquire more armaments without producing less of anything else. But this easy way of war preparation could obviously not go very far, nor last very long. Enough gold was left to be of considerable use in the first years of the war which followed; but the exhaustion of this reserve of gold (and of other easily marketable foreign assets) was the main reason why it was necessary to call upon American assistance in the form of the Lend-lease Act of 1941.

[1] Or in the possession of the Exchange Equalization Fund, which is a government department. For further discussion, see Appendix, Note D.

foreign assets both the debts due from outsiders and also property possessed by British firms in overseas countries). Since the national income was about £4,600 millions (in this field we had better take very round numbers), the net national output will have been about £4,400 millions.

Visible exports of British produce were worth about £470 millions. The main invisible exports were shipping services (valued at £100 millions) and financial commissions (about £35 millions). The part of the national output which was exported was therefore worth about £600 millions—about one-seventh of the total output. It follows that the value of goods and services produced at home (whether consumption goods or investment goods or public services) must have been about £3,800 millions.

'Retained' imports (that is, imports not exported again within the year) came to £860 millions. Adding this to the value of goods produced at home and not exported (£3,800 millions), we have £4,660 millions for the value of all goods consumed or invested at home; it will be noticed that this is rather more than the original figure for the national income. It is not easy to measure the excess at all exactly, but it is given in the White Paper as £55 millions.

How could such an excess arise? If we refer back to our previous discussion of the national income and the balance of payments (Ch. XII), it becomes clear that an excess of this kind can only arise if there is a net excess of borrowing abroad, or if a part of the national capital is being sold off to foreigners. In the particular circumstances of 1938, it is certain that the latter is the correct interpretation. For there was one important export, which (not being an export out of the National Output) we have not yet accounted for. This was the export of gold.

The export of gold fits into our previous accounts in this way. The figure which we gave in Table VI for government expenditure on goods and services was £780 millions; but this is not the same as the figure in the White Paper, which gives £835 millions. The difference is just this same £55 millions which concerns us here. In addition to the expenditure which we have previously discussed, expenditure financed by devoting a part of the national *income* to government purposes, there was a further

clear what the percentage change in real output had been; we should find it easy to avoid being entangled in changes of prices. In practice, these conveniently simple cases never occur. Between one year and another the outputs of some goods increase, those of others diminish; the prices of some goods increase, those of others diminish; even if (as sometimes happens) the prices of nearly all goods increase together, or diminish together, they increase or diminish by very different percentages. We are therefore reduced to makeshifts. It is a very delicate matter (which lies far outside the scope of this book) to distinguish the respective merits of the different makeshifts which are commonly used. Here we can do no more than indicate their general character.

2. The simplest way of estimating the *real* change in output which takes place from one year to another is to take the different quantities of goods and services produced in the two years and to value each year's quantities at the *same* set of prices. The value of the output of 1930 is ordinarily got by valuing the goods produced in 1930 at the average prices ruling in 1930; the value of the output of 1931 is got by valuing the goods produced in 1931 at the prices of 1931. If we compare these *money* values, we are confronted with a change which is partly due to real changes in output, partly due to changes in prices; but if we use the 1930 prices throughout, the relation between the figures we shall then get will cease to be influenced by changes in prices, but will only reflect the changes in the quantities produced.

For the years 1930 and 1931

$$\text{Ratio between money values of output} = \frac{(\text{Quantities 1931} \times \text{Prices 1931})}{(\text{Quantities 1930} \times \text{Prices 1930})}$$

$$\text{Ratio between real values of output} = \frac{(\text{Quantities 1931} \times \text{Prices 1930})}{(\text{Quantities 1930} \times \text{Prices 1930})}$$

The brackets mean that the quantity of each good produced is to be multiplied by the average price of that good during the year stated; and the values thus arrived at for the outputs of different goods are to be added together.

The formula thus given for the ratio between the real values

XV

THE NATIONAL INCOME IN REAL TERMS—INDEX-NUMBERS

1. THE national income consists of a collection of goods and services, reduced to a common basis by being measured in terms of money. We have to use the money measure, because there is no other way in which a miscellaneous collection of different articles can be added together; but when we are seeking to compare the production (or the consumption) of one year with that of another, the use of the money measure may lead us into difficulties. A change in the money value of the national income may be due to a real change in the amounts of goods and services at the disposal of the community; but it may be due to nothing more than a change in money values. If exactly the same quantities of goods were produced in one year as had been produced in another, but in the second year prices were all 25 per cent. higher, the money value of the national output would be increased by 25 per cent.—but this increase would have a very different significance from that of an actual increase of 25 per cent. in the production of goods and services. An increase of 25 per cent. in the *real* output of goods and services would be an economic gain of tremendous significance; an increase of 25 per cent. in money values, without any increase in real output, would not represent any economic gain at all. Before we can proceed with our discussions, we must learn something about the means which are available for separating these two sorts of changes from one another.

It must be emphasized, in the first place, that no perfectly satisfactory method of separation exists. If a change in prices meant a change of all prices in the same proportion, it would be easy to correct for the change in prices; we should simply adjust all prices by the same uniform percentage, and we should then be able to proceed as if no change in prices had occurred. Alternatively, if when the outputs of goods increased or diminished, the outputs of all goods and services increased or diminished in the same proportion, it would then be perfectly

circumstances of the two years we are comparing, and the circumstances of the base year, are not too dissimilar; but when there has been a great change in circumstances, as may sometimes happen even with years which are close together (1938 and 1940 may be a case in point), any kind of comparison needs to be made with great circumspection.

3. This is the principle of the method which is used for comparing real income and real output between different years. Even in principle, the method is rather a makeshift; in practice we cannot do even so well as this, at least as a general rule. For although we can acquire, in one way or another, the information which is necessary for calculating the national income valued at the prices of its own year, we do not usually possess the detailed information about the prices and quantities produced of different articles separately, which would be necessary in order to calculate the value of one year's output at the prices of another year. So we are obliged to have recourse to indirect methods. The principle of these indirect methods is the following.

Take the formulae for the ratios of money values of output and of real values of output (between 1930 and 1931) which were set out on a previous page and divide one by the other. The denominators of both fractions are the same and so they cancel out. Thus we get:

$$\frac{\text{Ratio between money values}}{\text{Ratio between real values}} = \frac{(\text{Quantities 1931} \times \text{Prices 1931})}{(\text{Quantities 1931} \times \text{Prices 1930})}$$

The fraction on the right of this new equation has the same *quantities* top and bottom, but different *prices*. It is therefore a measure of the ratio between the levels of *prices* in 1930 and 1931. So we may write:

$$\text{Ratio between real values} = \frac{\text{Ratio between money values}}{\text{Ratio between price-levels}}$$

If we can find a way of measuring the ratio between the price-levels, the ratio between the real values can be easily calculated from this last formula.

is got by using the *prices* of 1930 in both the top and the bottom of the fraction; but there is no particular reason why we should have selected 1930 as our *base* (as it is called) rather than some other year; the important thing is that the prices (but not the quantities) should be the *same* in both top and bottom. If, instead of valuing both top and bottom at the prices of 1930, we had valued both at the prices of 1931, we should have got a different formula for the ratio between the real values; there is no obvious reason why one of these formulae should be better than the other. Fortunately, in nearly all cases where an experiment has been made, it is found that the two formulae do not differ very seriously.[1] Either can therefore be used as a measure of the change in real value; it does not matter very much which we use.

It is even permissible, provided sufficient care is taken, to use for valuation the prices of some third year, which is different from either of the two years being compared. Thus it may be convenient, when we want to trace the movement of the real national income over a period of years, to select some particular year as base, and to keep it as base throughout the whole of the calculation. When calculating the movement of the real national income between 1920 and 1940, we might select 1930 as base, and use the prices of 1930 for valuing all the goods and services produced in any of the twenty years. This sort of thing is often done, and there may be no harm in it; but it is rather dangerous. A great deal can happen in twenty years; the circumstances of one year may differ so considerably from those of another year ten years later that the different measures of real income, which would be got by selecting different years (out of the set of twenty years) as bases, might easily differ very considerably. It would be obviously absurd (to take an extreme case) if we tried to compare the real national income of England in 1700 with that in 1800 by using the prices of 1900 as a basis of valuation; indeed it is doubtful if there is any basis of valuation which would enable us to make a useful comparison between the real incomes of two years a century apart. Comparisons of the kind we are discussing are sound and sensible if the

[1] There are mathematical reasons why this should be so (cf. Bowley, *Elements of Statistics*, pp. 87–8).

readily available are based upon baskets which are only moderately appropriate.

4. The method of calculating an index-number which is employed in practice is slightly different from that which we have described, though it comes to identically the same thing. The situation in the base year is first examined, and the proportions of the total cost of the basket which are due to each of the separate articles are first calculated. These proportions are called *weights*. A simple example is set out in the table below. The basket is supposed, for simplicity, to contain only three sorts of goods, in the stated quantities. If the prices in the base year are as stated, the total values of these amounts can be calculated by multiplication, and the total value of the whole basket by adding up the value column. Dividing each of the separate values by their total, and multiplying by 100, we have the weights.

	Quantities	*Base year Prices*	*Total values*	*Weights*
Bread	9 loaves	4*d.* per loaf	9 × 4*d.* = 3*s.*	100 × 3*s.*/7*s.* 6*d.* = 40
Milk	6 pints	3*d.* per pint	6 × 3*d.* = 1*s.* 6*d.*	100 × 1*s.* 6*d.*/7*s.* 6*d.* = 20
Beef	3 lb.	1*s.* per lb.	3 × 1*s.* = 3*s.*	100 × 3*s.*/7*s.* 6*d.* = 40
			7*s.* 6*d.*	100

Now pass on to the other year, which is to be compared with the base year. Suppose that in this other year the prices of the three articles were as set out in the second table which now follows. If we recalculated the total value of our basket at the new prices, we should find that it came out to 7*s.* 10½*d.* The required index-number of price change could be calculated directly by dividing this sum by 7*s.* 6*d.* But when there are a large number of different articles in the basket, and particularly when it is desired to calculate a whole series of index-numbers for different years on the same base, it is usually more convenient to reach the same result in a different way. We reckon what is the proportionate change in the price of each of the articles between

valuable experiments in the direction of constructing a more appropriate index-number.

A really satisfactory measure of the ratio between the price-levels would of course involve just that knowledge of actual quantities produced, and actual selling prices, which we do not possess. But a rough measure can be reached in other ways. What we need is a measure of the average change in prices which has taken place between the two years. Such measures are called index-numbers.

Index-numbers of prices are put together in what is substantially the following way. We take a particular collection (or 'basket') of goods, so many loaves of bread, so many pounds of sugar, so many pairs of socks, so many ounces of tobacco (and so on);[1] we inquire how much it would have cost to purchase this basket of goods in the year chosen as base, and how much it would have cost to purchase the same basket of goods in the other year. The ratio between these sums of money is a measure of the average change in prices between one year and the other.

Suppose the cost of the basket was 25*s.* in the first year and 28*s.* in the second. The ratio is then $28/25 = 1{\cdot}12$. It is convenient in practice to write this multiplied by 100 (in order to avoid unnecessary writing of decimal points); so we say that the index-number of prices in the second year (with the first as base) is 112. The index-number in the base year must of course be 100.

Every index-number of prices is based upon a particular *basket*; but of course if we take a different basket we may get a rather different index-number—a rather different measure for the relative change in prices. The ideal basket for the purpose of comparing real national incomes would contain all the goods and services contained in the national income, and would contain them in much the same proportions as they are contained in the national income itself; but we cannot secure in practice anything better than approximations to this ideal basket. It is not unlikely that further research will put us in a distinctly better position in this respect than we have enjoyed up to the present;[2] as it is, the index-numbers which are most

[1] It is important that the *qualities* of these goods should be as similar as possible in the two years.

[2] Mr. Colin Clark (*National Income and Outlay*, ch. 9) has made some

of such things as clothes, house-room, entertainments, and so on; these things were then added to the 'basket'. The 'basket' thus put together has gone on being used ever since (1942). The cost of living, as it is published, is expressed as a percentage rise in prices since 1914, so the base appears to be 1914; but the real base is information about 1904 for the food items, and less secure estimates about 1914 for the non-food items. It would not have been surprising if an index-number with this queer and remote base had been seriously out of date by the nineteen-thirties; the government therefore decided to have a new inquiry made into working-class expenditure, so that a new index could be constructed. The inquiry was made (in 1937–8) and its preliminary results have been published;[1] but the appearance of the new index has been postponed by the outbreak of war. The inquiry was made in an exceptionally thorough manner; when its full results have been published, they will probably mark an epoch in our knowledge of social conditions. Enough is already known to show, as might have been expected, a great rise in the standard of living since 1904, and a remarkable consequent change in the quantities of different articles consumed; but in spite of this great change, the effect on the cost-of-living index of a recalculation with the new basket can be shown to be remarkably slight. The official index of the cost-of-living for 1937–8 stood at 157 (a rise in prices of 57 per cent. above 1914); Professor Bowley has calculated[2] that if the new basket had been employed, the figure would have been 159. This small divergence is certainly a tribute to the official index; or (perhaps one should say) to the foolproof character of these index-numbers.

6. The cost-of-living index is an index of retail prices—that is, of the prices people actually pay in the shops. For purposes of reducing the national income to real terms, this makes it a more satisfactory index than most of the other index-numbers of prices which receive attention; for they are index-numbers of wholesale prices—of the prices of raw materials, and of goods sold by one firm to another. Nevertheless, while

[1] *Ministry of Labour Gazette*, December 1940 and January–February 1941.
[2] *Review of Economic Studies*, June 1941, p. 134.

the two years, expressing this in the form of a separate index-number for each article. Then we multiply each of the separate index-numbers by its corresponding weight, add up, and divide by 100.

Second year	*Prices*	*Separate index-numbers*	*Separate index-numbers × weights*
Bread	$3\frac{1}{2}d.$ per loaf	$3\frac{1}{2}/4 \times 100 = 87{\cdot}5$	$87{\cdot}5 \times 40 = 3{,}500$
Milk	$3\frac{1}{2}d.$ per pint	$3\frac{1}{2}/3 \times 100 = 116{\cdot}7$	$116{\cdot}7 \times 20 = 2{,}333$
Beef	1*s.* 2*d.* per lb.	$14/12 \times 100 = 116{\cdot}7$	$116{\cdot}7 \times 40 = 4{,}666$
			100)10,500
			105

Whichever method of calculation we employ, the cost of purchasing the basket has risen by 5 per cent. between one year and the other; so the index-number of the second year (on the first as base) is 105.

5. The most famous of all British index-numbers is the cost-of-living index published by the Ministry of Labour. The basket of goods on which this index is based is supposed to be that consumed in a week by a representative working-class family. It is thus an index of very fundamental importance; the prices whose movement it does effectively summarize are the important prices for the well-being of the bulk of the population; it covers a large part of the field which would be covered by the ideal index which we should desire to have for measuring the national income in real terms. In spite of this, its actual composition is rather curious; it is not altogether what it might be taken to be.

As long ago as 1904 the government began to prepare an index-number of food prices; investigations were made into the quantities of different foodstuffs consumed by a normal working-class family, and a standard basket was defined as a result of these investigations. This basket, containing food only, was used for calculations between 1904 and 1914. But after the outbreak of war in 1914 it was decided that a wider index-number was needed. Estimates (not based on the same detailed inquiry into the facts) were made of the probable consumption

price might be halved, but much the same extra would still be added for selling costs, and so the retail price might fall by no more than a quarter. Wholesale prices are also affected, more

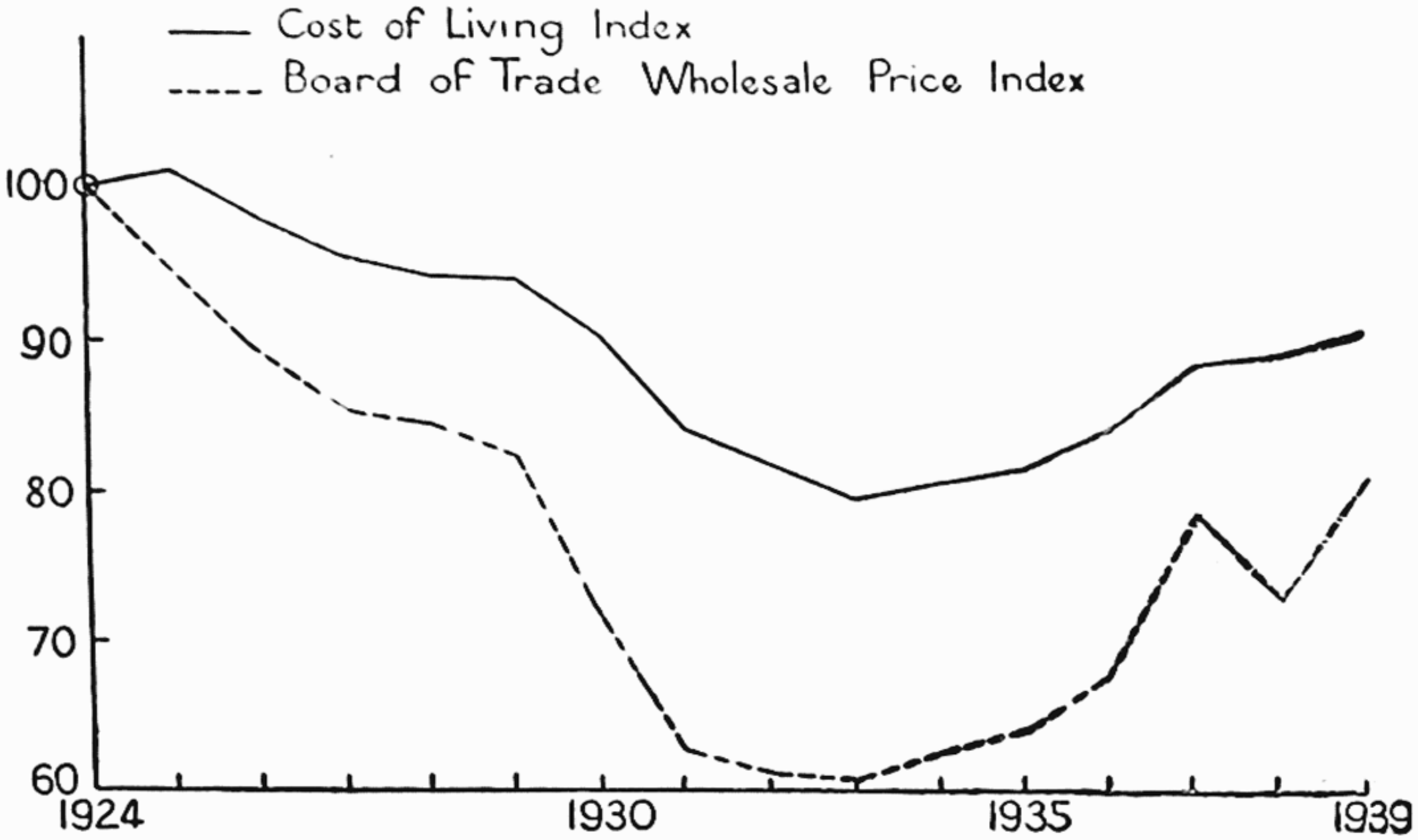


CHART III

directly than retail, by those instabilities in the production of new capital goods, which we discussed in an earlier chapter.[1] These matters deserve a good deal of attention, but a full examination of them requires other methods than those which we are using in this volume.

[1] See above, Ch. VIII.

we are on the subject, something may usefully be said about some of these other index-numbers.

Perhaps the most famous of wholesale index-numbers is the Sauerbeck Index, published nowadays by the *Statist* newspaper.[1] The principal virtue of the Sauerbeck index is that it goes back a long way, having been compiled in the same way ever since 1846. In its method of construction it is exceedingly crude; the different prices included in it are not weighted at all, but the separate index-numbers for the separate goods are just added up and averaged. There is a 'basket' of goods implied in the Sauerbeck index, as in other index-numbers; but it is an extremely odd basket, arrived at by accident, and without economic significance.

The best index of British wholesale prices is the official Board of Trade Index,[2] which is based upon the relative importance of the different articles included as they appear in the Census of Production. This gives a much more reasonable basket; for its own purposes the Board of Trade index gets high marks as an index-number.[3]

The movements of the cost-of-living index and of the Board of Trade wholesale index (between 1924 and 1939) are shown in the following chart. (For convenience of comparison, both have been expressed in the form of percentage changes since 1924.) It will be noticed that the two indices usually move in the same direction, but the wholesale index is more 'sensitive'—its movements are more violent. It is everywhere the usual experience that wholesale prices are more sensitive than retail; there are a good many reasons for this, one of the simplest being that wholesale prices are more directly affected by such disturbances as harvest fluctuations. The price of apples (say) to the final consumer equals the wholesale price *plus* an extra (often a large extra) to cover the costs of transport, marketing, and final sale; if there was a great overproduction of apples, the wholesale

[1] Also in the *Journal of the Royal Statistical Society*.

[2] Published (monthly) in the *Board of Trade Journal*.

[3] The method used for calculating the Board of Trade index is not precisely the same as that which we have described. Instead of being an arithmetic mean of the changes in prices considered, this index is a geometric mean. Though some statistical advantages are claimed for this refinement, its economic merits remain exceedingly doubtful.

chapter, they are none of them likely to be very seriously upsetting.[1]

There is, however, one other imperfection which needs separate consideration, because (though we have not allowed for it yet) it can be corrected for without serious difficulty. This is on the matter of population. Obviously, if the working population of a country is rising, we should expect the real national income to rise with it; more hands should produce more goods. If the national income remained steady when the working population was rising, the position would not be a stationary one; it would be seriously deteriorating. For purposes of comparing economic welfare at different times, it is average real income *per head* which is the interesting figure, not total real income. But probably not real income per head of the *total* population. For let us suppose that population began to increase as a result of people having larger families. So long as the extra inhabitants were in the cradle, or even while they were at school, there would be more mouths to feed (and this would be important), but we should not expect to get any increase in the national output, and consequently in the national income, until they arrived at an age to start working. The fall in the national income per head of total population which might take place in the intervening period would not indicate that the nation was economically going downhill. In order to avoid misapprehensions of this sort, it seems better to divide the national income, not by the total population, but by the *occupied* population[2] (those who are either working or seeking work). Occupied population will exclude children, women working in the home, and old people (and these are properly excluded, since we should not expect them to contribute to the national output); it includes the unemployed (who are seeking work, but cannot get it), and it would seem to be quite proper for the unemployed to be included, since a fall in national income due to an increase in the numbers of workers unemployed does mark a real decline in the efficiency of production. Let us therefore take as our test of economic progress the movement of Real National Income per head of Occupied Population.

[1] For some discussion of the parallel problem of comparing the economic well-being of different countries, see Appendix, Note G. [2] See above, p. 58.

XVI

NATIONAL INCOME AND ECONOMIC PROGRESS

1. When the national income has been converted into real terms (when those changes which are solely due to changes in the prices at which goods are valued have been so far as possible eliminated) it provides us with the best single measure of the nation's economic well-being, or economic progress, which we are likely to be able to get. Of course no single measure can tell us all we should like to know; the national income only measures the total volume of goods and services at the disposal of the community during the year; it can tell us nothing, for example, about the way in which that total amount is divided up between rich and poor.[1] Even apart from this question of distribution, the national income has other imperfections which we have noted as we went along, and which we should now do well to recall to our memory. In the first place, the services which are included in the national income are only those services which are paid for, and these do not include all the useful work which is performed.[2] Secondly, no attention is paid to the effort of labour; an increase in the national income, which came about as the result of longer hours being worked, would not be an unqualified gain in economic welfare.[3] Thirdly, there is the awkward question about some of the public services, whether they are to be regarded as directly useful in themselves, or as means to the production of things which are directly useful.[4] An increase in production which took the form of an increased output of services needed for order and defence might not be a clear economic gain like other increases in production. Finally, there is the makeshift character of our devices for eliminating changes in prices. All these imperfections need to be borne in mind when we seek to use the variations in the real national income as a measure of economic progress. Fortunately, over the period of years which we shall be considering in this

[1] We shall be discussing this matter in the following chapter.
[2] See above, p. 23.
[3] See above, p. 70.
[4] See above, p. 134.

apparent in this upper curve; taking the curve as a whole, there is not much sign of 'progress'.

But this is average income in money terms; as can be seen from a glance at Chart III in the previous chapter (p. 163), throughout the greater part of the period there was a decided fall in the cost of living. If we take this into account, dividing each year's average money income by the cost-of-living index for the year,[1] we get a very different picture. The average national income in *real* terms is shown in the lower curve of the present chart. It tells a much more cheerful story. The great dip due to the depression is extraordinarily flattened out; and instead of 1937 struggling back to a position no better than that of 1924, the period as a whole is revealed as one of definite—indeed remarkable—economic progress. Real national income per head was nearly 20 per cent. higher in 1936–7 than it was in 1924–5. It might appear at first sight as if this improvement happened altogether in the years 1933–6, but closer examination suggests that that is probably not the right way to look at it. For one thing, if we had figures going back before 1924, they would probably show that 1924 was a better year than *either* of its neighbours; there is therefore an upward movement during the years 1923–7 as well as the upward movement of the thirties to be taken into account. Further, the decline in real income which took place in 1931 and 1932 was remarkably small in view of the abnormally heavy unemployment which existed at

[1] Since real income is to be thought of as consisting of goods, not as so much money value, it seems better to indicate movements of real income by percentages above or below a base year (in this case 1924) rather than by pounds sterling.

There is one other correction (besides mere division by the cost-of-living index) which I have introduced when calculating real income from income; it had better be brought to the notice of any reader who desires to work through the matter in detail. When the national income is measured in the ordinary way in terms of money, the goods on whose sale the government levies taxes are included *at factor cost* (i.e. their prices are taken with the tax omitted). This will become clear from a glance at the table on p. 147. But the prices whose variations are summarized in the cost-of-living index are the prices people actually pay, which of course include tax. Consequently, before we divide by the cost-of-living index, we must see that these goods are valued at the same prices top and bottom. The easiest way to do this is to add the government's receipts from indirect taxes to the estimate of the money national income before dividing by the cost-of-living index. (For further discussion, see Appendix, Note F.)

2. Professor Bowley's calculations[1] give us a series of figures for the national income of Great Britain (in money terms) covering the years 1924–38. This is the longest series of reliable estimates which we possess, and it will therefore be particularly

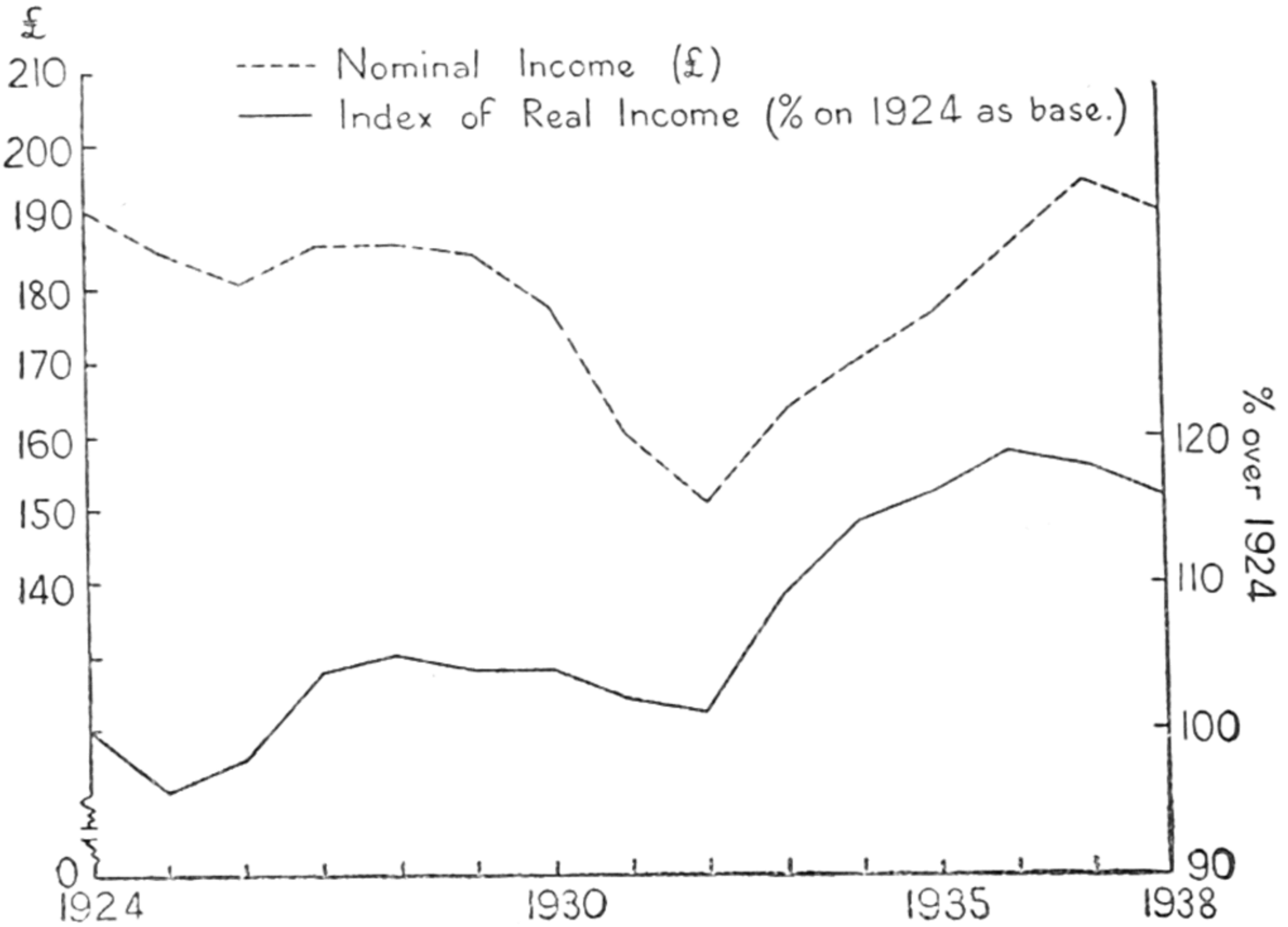


CHART IV

instructive to give it some attention. If we divide these figures for the Money National Income by the estimated numbers of the Occupied Population[2] in each year, we get the Average National Income in money terms. The result is set out in the upper curve in the accompanying chart. The curve begins at about £190 per annum in 1924, falls to £150 per annum in 1932, and then recovers to approximately the same £190 by 1937–8. The violent disturbance of the great depression between 1930 and 1934 (with its heavy unemployment, somewhat reduced wage-level, and greatly reduced profits) is very

[1] *Studies in the National Income*, p. 81, referred to above, p. 142.
[2] Estimated by Professor Bowley in the same work.

world has suffered so greatly during the present century, diseases which it is impossible to understand without making a systematic study of the theory of money. The first dip was closely associated with the restoration of the gold standard in 1925 (the coal strike was itself largely an episode in the history of that restoration). The restoration of the gold standard was intended as a positive measure of post-war reconstruction; those people who were responsible for it no doubt hoped that its first unfortunate repercussions would be the prelude to better things—but their hopes were belied. The depression which began in 1929 was probably not itself a consequence of the restored gold standard; its origins can more readily be explained in terms of those difficulties in maintaining an even flow in the output of capital goods, which we described in an earlier chapter,[1] and which would arise under any monetary system. What is true is that the monetary arrangements introduced in the nineteen-twenties stood up to the shock of depression exceedingly badly; monetary disorders may not have caused the depression, but they were undoubtedly responsible for its being so 'great'. After 1931 new methods were tried in the monetary field; whether the new methods will work better under a similar strain is largely a question for the future.

4. So much for the dips; but the economic development of Britain during the years we are discussing contained something more than dips; there was also the underlying upward trend. What can we say about the causes of the trend?

Remembering our general plan of the productive process, it would appear at first sight as if this sort of gradual upward movement in real income per head must be due to one or other of three causes: (1) improvements in the average skill of labour, (2) increases in the capital equipment worked, with (3) improvements in technique—the utilization of more efficient methods of combining labour with capital. Is it possible to say anything about the relative importance of these causes in this particular case?

As far as present knowledge goes, it is not possible to say very much, though further investigation may well throw more light

[1] See above, pp. 76–80.

that time; it is hard to explain the smallness of the drop unless we suppose that some part of the increased productive power which manifested itself after 1933 was already there in the depression years, though it was very incompletely utilized. Putting these things together, it may be suggested that we shall get a more just impression of the whole period if we notice that the levels of real income per head attained in the 'good' years (1924, 1927–8, 1934–6) lie almost on a line, an upward-sloping line which represents a very creditable rate of economic progress. If this progress had been more regular, the rate of advance achieved would probably have compared quite favourably with the most rapid advances of earlier periods;[1] but in fact it was interrupted by two dips, a smaller dip in 1925–6, and a larger dip in 1929–33, during which the level of real income achieved was very considerably lower than what might have been expected from the general trend. In 1937–8 one can see the beginning of what appears to be a third dip; but the history of this third dip was soon dominated by the shadow of approaching war.

3. To attempt a proper explanation of the dips in the real income curve would involve us in matters which lie outside the scope of this book. The immediate cause of the dips was a fall in the proportion of the occupied population who were actually working; in 1926 there was the great Coal Strike, and in 1930–3 there was the abnormal unemployment of the great Depression.[2] These were the immediate causes; but when we look for the causes of these causes, we are bound to recognize that they were both of them aspects of those monetary diseases from which the

[1] Our information about incomes and prices before 1914 is much too sketchy to make any really reliable comparison possible; it seems likely, however, that increases in real income per head which were on this sort of scale did occur at several stages in the second half (though not in the first half) of the nineteenth century. Between 1900 and 1914, on the other hand, it is possible that real income per head was not expanding appreciably.

The best estimates for these earlier periods are contained in Bowley, *Wages and Income since 1860*, pp. 93–5; see also Colin Clark, *National Income and Outlay*, ch. 10.

[2] The low figure for 1925 is less readily explicable along these lines; but the figure is a doubtful one. In Professor Bowley's own estimate for real income (*Studies in the National Income*, p. 192) which I had not seen when I wrote this chapter, 1925 comes out higher than 1926.

capital is always greater than it appears to be, judging simply by the value of the additions. The increase of capital equipment does not merely consist of new capital goods being added to the old, new goods which are of the same sorts as the old; the additional capital goods are to a large extent goods of different sorts, more up-to-date sorts, which generally means more efficient sorts. The same thing applies indeed to the replacements of capital which take place during the period. Capital goods wear out and are replaced; but an old machine is not necessarily replaced by the same sort of machine as before. If there has been an improvement in technical methods in the interval since the old machine was acquired, the new machine is likely to be different from the old, more efficient than the old. The new machine may sometimes cost no more than the old machine which it replaces, so that the firm which uses it does not reckon that it has made any addition to its capital; but if it is more efficient than the old machine which it replaces, there is an increase in productivity, due (perhaps we may say) to an improvement in the *quality* of the capital equipment employed.

Improvements in technique do very commonly take the form of improvements in the quality of capital. The making of an invention—the *discovery* of a more efficient method of production—does not itself increase productivity; productivity is only increased when the new method is applied, and usually it cannot be applied until the new equipment with which to apply it has been constructed. Thus it frequently happens that increases in productivity which are ultimately due to a particular invention are not completed until several decades after the date when the invention was originally made. Probably the most potent of the inventions which increased productivity between 1924 and 1938 were the internal-combustion engine and the electric dynamo; but neither of these was a new invention, each was inherited from the nineteenth century and had completed all the essential stages of its technical development before 1910; the great economic effects of these inventions belong to the later period, because the inventions had to be embodied in capital goods before they could be utilized, and the new capital goods took time to construct. It is well to remind ourselves of the variety of capital goods which are needed for the full utilization

on the matter. Something can plausibly be ascribed to improvements in the average skill of labour. Education (both general and technical) has been very greatly improved during the present century, particularly after the Education Acts of 1902 and 1918. Now the effect on the average skill of labour which is produced by an improvement in educational facilities must inevitably be extremely gradual; in 1924 not more than 40 per cent. of the occupied male population are likely to have had any experience (in their school years) of the educational improvements which followed the Act of 1902, but by 1938 the proportion may have risen to 80 per cent. In the same way, it will not be until about 1960 that the effects of the 1918 Education Act in raising the average skill of labour will have worked themselves out at all fully.

Improvements due to increases in capital equipment and improvements due to advances in technique are hard to disentangle. We do possess some estimates of the rate of capital accumulation during the period;[1] but there is a good deal of uncertainty about them, and they are not easy to interpret. Taken at their face value, the figures would seem to suggest that investment in new capital has been quite sufficient over the period for a considerable part of the increase in real income to be properly attributable to this cause.[2] The statistical evidence which leads to this conclusion is not very strong; but this is one of the cases in which we may reasonably have more confidence in the conclusion than in the statistics. For in a period of advancing technique, the effectiveness of new additions to

[1] See Colin Clark, *National Income and Outlay*, p. 185.

[2] One can get a rough idea of the position in this sort of way. Occupied population increased by 11 per cent. over the period, that is, at ¾ per cent. per annum on the average. The value of the national capital in 1932–4 was about £18,000 millions. Three-quarters per cent. of this is about £140 millions; so £140 millions was about the amount of net new investment per annum which was needed to provide the additional workers with the same amount of capital per head as was previously available. Although the actual amount of new investment fell far below this figure in the bad years 1931–3, it seems to have been usually much above, so that an average not much short of £300 millions is not at all improbable. If this kind of figure is correct, it would give an increase of capital per head of occupied population equal to about 10 per cent. over the whole period; and that would clearly be sufficient to explain a good part (it would be unwise to put such trust in our arithmetic as to say half) of the increase in real income which we find.

period, but it was much more than offset by disasters to old investments, reductions in dividends, bankruptcies, partial and total defaults.

This is how the story appears on the surface; but the superficial view is misleading, for once again we have to allow for changes in prices. In this case it is not sufficient to convert our figures into real terms by using the cost-of-living index. The real income derived from overseas investments is taken out in the form of an excess of imports over exports; its magnitude therefore depends, not on the level of prices in general, but on the prices of those particular goods which are imported into the country. Now the prices of imports fell, between 1924 and 1935, much more than other prices did; the special index-number which is compiled by the Board of Trade for a 'basket' of imported goods fell from 100 in 1924 to 57 in 1935, while the cost-of-living index only fell from 100 to 83. (The full figures of this index-number of import prices are given in Table IX overleaf.) If we use this index-number to calculate the *quantity* of goods which Britain was receiving in payment of interest and dividends on foreign investments, we find that the losses due to the fall in the money value of overseas income were not real losses at all. The real value of overseas income never fell below what it had been in 1924, not even in the bad year 1932. By 1935 the real value of overseas income was nearly half as much again as in 1924. Income from overseas investments is not large enough in total for this contribution to make very much difference to the average level of real incomes in the country, but clearly it is a contribution in the right direction.

The extraordinary fall in the prices of imports had, however, an effect which went beyond this. Even if a country was neither a creditor nor a debtor, and was neither borrowing nor lending, so that its imports and exports (including invisibles) were exactly equal in value,[1] it might still be made better or worse off by the effects of such changes in prices on its foreign trade. Let us begin by taking a simple case to bring out the principle. Let us consider an imaginary nation, whose exports consist entirely of coal, and whose imports consist entirely of wheat. If it produced 10 million tons of coal for export, and the price of

[1] See above, p. 125.

of a major invention like the internal-combustion engine. Even in the field of terrestrial locomotion alone, it was not merely a question of making the motor-lorries and motor-buses, the motor-cars and motor-bicycles; the plant for making these vehicles had first to be constructed, while garages to repair them were also necessary, metalled roads on which they could run, tankers to bring them their fuel, and petrol pumps from which to distribute it. And none of these things could function unless there were also available, at the ends of the earth, the oil-wells from which the essential fuel originally springs, and the tropical plantations to provide rubber for the tyres. When one remembers that only a limited proportion of the community's resources is available each year for new investment, and that there are other forms of new investment to be provided for as well (in our period the most important of these competing forms of new investment was housing), it is not surprising that a great invention should take some time to realize itself fully. But while it is realizing itself, it adds very greatly to the productivity of the additions to capital which are being made.

5. The causes making for a rise in real income per head which we have so far been discussing are all of them in principle *internal* causes, causes which originate in the development of the nation's own productive system. But as well as these internal causes there are external causes to be considered, causes which work through the nation's foreign trade or through its international creditor or debtor position. In the actual case of Britain during our period, the external causes require very serious attention indeed.

The official estimates of income received from foreign investments[1] do not suggest, at first sight, that the British people were deriving any more advantage from their economic relations with other countries at the end of the period than they were at the beginning. Net income from overseas is estimated to have been about £220 millions in 1924, about £250 millions during the years 1925–9, to have dropped to £150 millions by 1932, and to have recovered, but only as far as £200 millions, by 1936–8. There was some new foreign lending during the

[1] Estimate of the balance of payments (Statistical Abstract).

the movement of the terms of trade, which should have been a great advantage to the nation, would only result in an outbreak of unemployment in the coal industry.

6. The actual course of events in Britain during our period had many features in common with this imaginary example. The prices of imports fell very heavily; although the prices of exports fell too, they did not fall on the average as much as the prices of imports, with the result that the terms of trade moved in Britain's favour. The official index-numbers of import and export prices[1] are given in the table below; the third column

TABLE IX

British Terms of Trade

Index-numbers (1924 base year)

	Export prices	*Import prices*	*Terms of trade*
1924	100	100	100
1925	97	99	98
1926	92	90	102
1927	87	87	100
1928	86	88	98
1929	84	86	98
1930	80	76	105
1931	72	61	118
1932	67	57	118
1933	66	54	122
1934	66	55	120
1935	66	57	116
1936	67	60	112
1937	73	68	107
1938	74	64	116

of the table is an index-number of the terms of trade, got by dividing the export price-index by the import price-index and multiplying by 100. (The terms-of-trade index shows the average amount of imports got in exchange for a unit of exports; a fall

[1] Prices of retained imports and of home-produced exports. It should be observed that these index-numbers are compiled entirely on the basis of *visible* imports and exports; if invisibles were included, the figures would probably need a slight correction, but it is not likely that this would affect the general impression.

coal was £1 per ton, the value of its exports would be £10 millions. Assuming that its exports and imports are equal in value, it would then have £10 millions to spend upon wheat. If the price of wheat was 10*s.* a cwt., the amount of wheat it could import would be 20 million cwt.

If now the price of coal remained the same, but the price of wheat fell to 8*s.*, the same amount of coal might be exported, and yet the amount of wheat got in exchange would rise from 20 million cwt. to 25 million cwt. The amounts of all goods produced at home might remain exactly the same (including the 10 million tons of coal produced for export), and yet the real income of the people would have increased by an extra 5 million cwt. of wheat. Real income would be increased, not because of an improvement in productivity, but because the *Terms of Trade*—the amount of other countries' products which the nation gets in exchange for a unit of its own products—had moved in its favour.

A favourable movement of the terms of trade can be a source of great advantage to the country which experiences it; but it is not always an unmixed advantage. For suppose (to continue with our imaginary example) that the country does not happen to want any more wheat; 20 million cwt. of imports were sufficient to satisfy practically all the community's wants for bread; an extra 5 millions would serve no useful purpose. In that case, either the value of exports must be allowed to exceed the value of imports (which could only be done by lending abroad, and there may be no suitable opportunities for foreign lending), or the amount of coal exported must be cut down. The country could continue to import only 20 million cwt. of wheat if it exported no more than 8 million tons of coal; at these quantities the value of imports and the value of exports would again balance. In a sense, this situation too would be quite satisfactory; the country would be getting all the wheat it wanted by giving up only 8 million tons of coal instead of 10 millions. If the home consumption of coal could be quickly increased, the advantage might be taken out in an increased consumption of coal at home, instead of in an increased consumption of wheat. But if consumption was not increased with sufficient rapidity in either direction, the output of coal would fall; and

the reduction in exports merely led to unemployment in the export trades; people were thrown out of work, because their labour was no longer needed for the production of exports, and because (for the moment) no alternative occupation for them could be found. At this stage there was no advantage to the nation; yet even so the swing in the terms of trade explains how it was possible for this great unemployment to be associated with the small reduction in real income per head which appears on our chart. The people who were thrown out of work did indeed experience a reduction in their real incomes; but those who remained in work were actually better off than before the slump (the London area was one of the few places in the world which were quite prosperous in 1931–3). Such reduction in real national income as did occur was solely due to the reduction in production for the home market; exports were reduced, but the reduced exports brought in no less an amount of imports than before.

In the second phase, after 1933, the opportunity provided by the change in the terms of trade was converted into a substantial advantage. The people whose labour was no longer needed in the production of exports turned over to produce for the home market (either in their old occupations or in new occupations to which they transferred themselves). At this stage real income per head rose sharply (as again appears from the chart); one reason for the sharpness of the rise was the change in the terms of trade. Much the same volume of imports as in the twenties could be got in exchange for a smaller volume of exports; the productive power which had been used for making the additional exports was now set free to produce more goods for home consumption.

7. It is tempting to try to guess how much of the improvement in real income is to be attributed to each of the causes we have been discussing. We do not possess enough information to make a really reliable estimate; but the impression which has been got by the writer of this chapter (as he wrote it) is perhaps worth setting down. Between 1924 and 1936–7 real income per head increased by about 20 per cent., on the method of estimation which we have used. It seems fairly clear that the external

in the price of imports increases this amount, a fall in the price of exports diminishes it.) It will be observed that the terms of trade turned very strongly in favour of Britain (the index rose by more than 20 per cent.) between 1929 and 1933. After that a part of the gain was lost, but some of it persisted.

The violent movement of the terms of trade during the depression years was due to the same sorts of causes as are responsible for the wholesale price-index having wider swings than the retail index of the cost of living.[1] Raw materials and agricultural products fell in price more than manufactured products did; consequently countries like Britain, whose exports are mainly manufactures, but whose imports largely consist of foodstuffs and raw materials, found the terms of trade moving in their favour. The change in the terms of trade which persisted when the depression was over is more probably to be ascribed to the great technical improvements in the production of raw materials, which have been so notable a feature of the economic history of the twentieth century. The costs of producing many materials, particularly in the tropical countries, have been dramatically lowered; Britain experienced the effect of these improvements through the change in her terms of trade.

The change in the terms of trade, and the increase in the real value of her overseas income, would have made it possible for Britain to expand her imports on a great scale, while giving up no more exports in exchange than before. But this is not what happened. There was some tendency for imports to increase during 1930–1; but the increase was cut short by the tariff imposed in 1932. During the nineteen-thirties the volume of imports (in real terms) per head of occupied population was usually a little (perhaps 2 or 3 per cent.) less than it was in the twenties. The fact that imports were acquired so much more cheaply than they were in the twenties was reflected in a reduced volume of exports, not in an increased volume of imports.

The reduction in exports was a disaster to the export trades; but for the nation as a whole it was an opportunity, not a disaster—though it took some time for the opportunity to be translated into a real advantage. There was a first phase in which

[1] See above, p. 162, and Chart III.

XVII

THE INEQUALITY OF INCOMES

1. In our studies of the national income we have divided it up in various ways: into the part which is consumed and the part which is saved, into the part which is taken by the State and the part which is left in private hands, into the part which is paid in wages and the part which is taken in profits. But so far we have said scarcely anything about what most people would regard as the most interesting sort of division—the division into incomes of the rich and incomes of the poor. This is not at all the same division as the division into wages and profits; there are some very rich people who earn their large incomes by working for them (successful lawyers or successful film actors, for instance), so that their incomes count as wages; there are some quite poor people (for the most part elderly people) who live on incomes derived from interest on their past savings, so that their incomes count as profits. No doubt more large incomes are derived from profits than from earnings of labour, and more small incomes are derived from wages than from profits. Nevertheless, the division into small incomes and large incomes is one which has to be studied as a separate problem.

In Britain, as in most other countries, the great majority of the population have incomes rather below the average for the community as a whole. The number of people with incomes above the average is relatively small; but some of these people have incomes very much above the average. It is customary, in ordinary speech and for political purposes, to refer to this last group (small in numbers but with large incomes) as 'the wealthy'; the larger group, whose incomes are above the average, but less markedly above it, as the 'middle class'; and the largest group, most of whose incomes are below the average, as the 'working class'. It should, however, be noticed that *class* differences are not by any means wholly due to differences in income; for social purposes a person belongs to the middle class if he lives in a middle-class way and associates with

causes (increased real value of overseas income, and the change in the terms of trade) will account for five or six of these twenty points. It looks as if accumulation of capital and technical progress (one cannot pretend to disentangle them) will account for much the greater part of the remainder. This would not leave more than two or three points to be ascribed to improvements in the average skill of labour. All this is very tentative, but it probably gives the right impression.

It thus appears that the change in the terms of trade, though important, was not of dominating importance; but it remains a singularly interesting phenomenon, which will stand a good deal of thinking about. For it illustrates the way in which a nation's real income depends, not only on the development of the nation's own productive resources, but also upon the development of the productive resources of other nations. The effects of improvements in productivity are diffused throughout the world by the trade which takes place between different parts of the world. And the same kind of thing also happens within a nation; indeed, since trading connexions are closer, it often happens within a nation to an even greater extent. Improvements in the manufacture of a particular commodity are not appropriated entirely by the producers of that commodity; they are diffused throughout the community, other people often benefiting more than the producers themselves. To trace out the full consequences on different sections of the community of improvements in the skill of labour, or of improvements in the quantity or quality of capital, is one of the most difficult, and most fascinating, of economic problems. Probably it has not yet been fully solved. Yet at least one thing is certain; the advantages of improvements are diffused; capitalists gain from improvements in the skill of labour; and workers are at least as likely as capitalists to gain from improvements in the quantity or quality of capital.

table,[1] where the first two rows can be regarded with confidence, and the rest will at least give the right impression.

The division of the 'Under £250' group into A and B needs explaining. The reason why it was necessary is this. The

TABLE X

The Distribution of Personal Incomes in Great Britain (1937)

Income class (p.a.)	*Number in class (thousands)*	*Total income in class (£ millions)*	*Average income in class (£ per annum)*
Over £10,000 .	8·6	180	21,000
£2,000–£10,000	101	375	3,700
£1,000–£2,000 .	177	240	1,350
£500–£1,000 .	475	320	670
£250–£500 . .	1,888	615	330
Under £250: A.	11,500	1,795	155
B.	8,250	540	65
	22,400	4,065	..

distribution of incomes in which we are mainly interested is the distribution by families. In the upper income-groups only one income from each family will usually be recorded in the statistics (husband's and wife's incomes are treated as one for purposes of income tax, and the separate incomes of dependants are for the most part unimportant). But in the lower income-groups the statistics are based upon information about wages; thus there will often be more than one income in the family, since more than one member of the family goes out to work. It is very difficult to make proper allowance for this. If we treated the joint earnings of two people living together as

[1] The year 1937 was selected for the table as being the most recent year for which surtax figures are available. The estimates for the income-groups below £2,000 were made for me by Mr. Barna. The sum total of all personal incomes emerges in the process of calculating the national income. As given here, it includes incomes from interest on the national debt, but does not include any receipts from social expenditure (whether in cash or otherwise). The number of income-receivers includes the unemployed (since there are relatively few unemployed who have no income except from social benefits during a whole year); it does, however, not include old age pensioners. It is true that some old age pensioners will have independent incomes from other sources, so that this course is not wholly satisfactory; but there is no other simple way of getting more or less the right impression.

middle-class people.[1] The distinction between working class and middle class is as much a matter of the way income is earned as of the size of the income; manual workers tend to regard themselves as working class, clerical workers tend to regard themselves as middle class; but a highly skilled manual worker may earn more than a lower-grade clerk. It is not possible to divide the population into clearly marked classes, each consisting of people with lower incomes than people in the classes above them, and higher incomes than people in the classes below them. If the division is made on any other basis than that of income, the incomes characteristic of the classes will be found to overlap. If the division is made on a basis of income, it will be found, however the income-groups are selected, that the result is a fairly regular pyramid. There will be some people with incomes in each range, and generally there will be smaller numbers of people in each range as we go up the scale of incomes.

Unfortunately we do not possess the information which would enable us to set out the distribution of British incomes among income groups in an accurate and reliable manner. The general picture is clear, but the details are obscure. We know much more about the total of incomes (and hence about the average level of incomes) than we do about the distribution of incomes between the more and the less wealthy. Oddly enough, the only groups of incomes about which adequate information does exist are the highest income-groups (those persons with more than £2,000 a year).[2] Below this level we have much less complete information; it is hard to put it together into a coherent picture without seeming to be more precise than our knowledge warrants. Nevertheless, the matter is so important that an estimate which must be correct in its broad lines seems worth giving. It is set out in the following

[1] For a discussion of the relation between differences in income and the less economic elements in class distinction, see T. H. Marshall, 'Social Class' (*Sociological Review*, January 1934).

[2] We owe this information to the fact that the high incomes are subjected to an extra income tax (surtax) which is imposed at higher rates the larger the income becomes. Consequently the administration of this tax yields information about the distribution of the incomes liable to it, without any special inquiry being necessary. But see note at end of chapter.

means entirely due to unemployment) where the standard actually reached would be far lower.

2. What are the reasons for the inequality of incomes? This is a very wide question; we have to draw upon many branches of economics before we can begin to answer it properly.[1] Here we can do no more than indicate a few of the issues which come up.

As soon as we begin to think about the question systematically, it becomes clear that it can be divided, more or less completely, into a number of sub-questions. Since incomes are derived either from the earnings of labour (wages and salaries) or from the ownership of capital (profits), we have to ask: (1) why some people earn higher wages than others; (2) why some people own more capital than others. If we could answer these questions, we should have made considerable progress in answering the main question; but we should not have answered it completely. For the ownership of the same capital may yield a higher income to the owner at some times than at others. It might happen, for example, that capital was distributed among owners just as unequally as it is at present, but the share of the national income going in profits was reduced from one-quarter to one-tenth; in this case the incomes of capitalists would be reduced very greatly relatively to the incomes of wage-earners, and in consequence (since capitalists are at present on the whole the richer class) incomes would be more equally distributed. There is thus a third sub-question to be considered: why is the national income divided between wages and profits in the way it is? An alteration in the relative shares of capital and labour would affect the inequality of incomes.[2]

The reasons for the differences in the wages earned by different people for the work they do have already been discussed to some extent in earlier chapters.[3] We have seen that

[1] See Cannan, *Wealth*, chs. 10–13, for what is still the best elementary discussion of the matter.

[2] It is worth noticing that a change in these relative shares would not affect the inequality of incomes if the ownership of capital were equally distributed.

[3] Chapters VI and VII above.

one income only, it would clearly be unfair; if two people have to work so as to earn £250 in total, they are ordinarily worse off than they would be if the £250 could be earned by the labour of one. On the other hand, if we treat these separate earnings as two incomes, we are obscuring the fact that it is only one family, not two, which has to be supported from the £250. It has therefore seemed best to put the earnings of females and juveniles (most of which will not be the main support of a household) into a separate class which I have called 'B'. The 'A' class contains the rest of the incomes (from whatever source) under £250 a year.

The difference between the average income in the A group and that in the B group (£3 a week and 25*s*. a week respectively) corresponds fairly well to the ordinary difference between men's and women's wages.[1] There must of course have been some people (skilled manual workers and salaried workers) who were receiving a good deal more than £3 a week, and others (rural workers and those suffering from long spells of unemployment)[2] who were receiving a good deal less. According to the Ministry of Labour inquiry into working-class expenditure,[3] the number of income-receivers per household averaged in 1937–8 about $1\frac{3}{4}$; presumably this average family would have one income from the A group and three-quarters of an income from the B group. (This agrees well enough with the total numbers in the two groups.) An A income *plus* three-quarters of a B income would give an average family income of 78 or 79*s*. a week. The urban workers in fairly full employment who were covered by the Ministry of Labour inquiry would have an average income distinctly above this figure; thus it is not surprising to find that their average weekly expenditure came out to about 86*s*. An average expenditure on this level represents a very respectable standard of living; but averages, though they convey vital information, are notoriously deceptive. This average must conceal many hard cases (not by any

[1] There are, however, large classes of women workers (domestic servants and nurses) who 'live in', so that the money incomes they receive underestimate their standard of living.

[2] It will be remembered that unemployment pay is excluded from the incomes included in this table.

[3] *Labour Gazette*, December 1940; see above, p. 161.

have wider fields for the exercise of such talents as they possess. If capital were more equally distributed, a great deal of the problem of inequality would disappear.

Capital is acquired in two main ways—by personal saving and by inheritance. The small savings which the ordinary man puts aside for his old age, or as a nest-egg against emergencies, do in the end make him into a capitalist, though a very modest one. The successful man, on the other hand, who earns a large income from his labour, but spends only a small part of that income, may become a capitalist on a considerable scale long before the end of his working life; this is particularly likely to be the case if his talents are of a kind which enable him to invest his capital profitably, and so get a large return on it from the start. To acquire a really large amount of capital entirely from one's own savings is, however, very exceptional; the wholly 'self-made' captain of industry is rarer in the twentieth century than he was in the nineteenth. Generally it takes two or three generations to build up the largest estates; it is very hard to build up a great fortune if you start from scratch, but if you have some (even a moderate) start in the race it is much easier. The part played by inheritance of property in causing inequality of capital ownership is therefore a very important one.

The acquisition of capital by inheritance is usually regarded nowadays[1] as less justifiable than acquisition by personal saving; the State has therefore considered that the passage of property at death is a suitable occasion for special taxation. The British death duties were first imposed in 1894; but the rates of tax long remained at a low level, which is unlikely to have had any appreciable effect on the inequality of capital ownership. The system of rates in force since 1930 is much more onerous; but even in 1938 an estate of £200,000 paid no more than 25 per cent., and it was only on giant estates of more than £2 millions that the formidable figure of 50 per cent. was reached.[2] At

[1] In earlier times it would not have been regarded in that light; one may indeed question whether this modern attitude towards *inheritance* of property does not have some connexion with a more general tendency to exalt the individual as against the family—a tendency which cannot continue indefinitely, if only because of its effects on the side of population.

[2] Further increases in death duties have taken place since 1939. An

the economic functions of differences in wages are to facilitate the distribution of labour among occupations, and to provide an incentive to effort. If an adequate supply of particular sorts of work is difficult to get, and there are particular people who are specially suitable to perform these kinds of work, there is a case for giving them a wage sufficient to induce them to specialize themselves, and to exert themselves, in these occupations. Some differences in wages can be defended on these grounds; but it must not be supposed that all the differences which exist at any particular time can be defended in this way. For example, it often happens that a high level of wages is established in a particular occupation, in the first place for good reasons; but after a time the labour needed ceases to be specially scarce, and yet the high wages may persist. Once people have acquired a privileged position, they are reluctant to abandon it, and will use all sorts of economic and political pressure to maintain it. The branch of economics which deals with differences in earnings from labour is therefore concerned both with discovering what differences can be justified on grounds of efficiency, and with criticizing the differences that actually exist by comparing them with more ideal arrangements.

Similar issues come up in connexion with the proportion in which the national income is divided between capital and labour. This is one of the most important of economic problems, but it is also one of the most difficult, and it is not even yet completely settled. It would be impossible to say anything useful about it with the methods we are using in this book.

Inequality in capital ownership is perhaps the most striking of the three elements which are responsible for the inequality of incomes. If the ownership of capital were equally distributed, the fact that a considerable proportion of the national income is taken in profits would matter far less; and since nearly all the largest incomes are due to the ownership of large amounts of capital, the disparity between the largest and the smallest incomes would be far less wide. Inequality in the ownership of capital is indeed one of the things which make for inequality in the earnings of labour; people who possess capital (or whose parents possess capital) find it easier to enter some of the more remunerative occupations, and in other ways

the special benefit of the lower income-groups; from it they are provided with free education, free health services, unemployment benefit, old age pensions, and assistance in housing. All these things are additions to the proportion of the national income which is used to provide goods and services for the lower income-groups; in calculating the true *available income* of these groups allowance needs to be made for governmental social services, and also for the similar services provided by non-profit making bodies, such as endowed hospitals.

It is tempting to see if we can rewrite our earlier table so as to illustrate the distribution of *available incomes*. The amounts which are paid by the various groups in direct taxes (such as income tax, surtax, and contributions to social insurance, which must here be regarded as taxes) can be estimated fairly closely; but to know how much is paid by each group in taxes on consumption (taxes on alcoholic drinks and tobacco, for example) is extremely difficult. A considerable amount of trouble has, however, lately been taken in constructing reasonable estimates of the consumption of taxed articles;[1] on the basis of these estimates we may hazard a guess. Social expenditure by central and local government came in 1937 to about £490 millions; nearly the whole of this will have been for the benefit of the income-group with under £250 per annum, though some items (grants to universities, public libraries, some assistance to hospitals) will have been partly for the advantage of rather higher income-groups. The income of non-profit making bodies was about £60 millions; here again we may allot the greater part to the lowest income-group. Social expenditure for the benefit of that group may thus be estimated at about £470 millions from government sources, and about £50 millions from the non-profit making bodies—a total of £520 millions. Part of the small remainder will be taken back by the Government in indirect taxes, and part will go to the higher income-groups—it seems hopeless, however, to attempt an estimate of how it is divided between them.

It would appear from table XI that the amount of taxation paid by the 'under £250' class was very nearly as large as their receipts from the Government's social expenditure. There

[1] Shirras and Rostas, *The Burden of Taxation*.

their present level, death duties do undoubtedly have important social effects in certain directions. County families, in which the same landed estate has been handed down for generations, find that their traditional way of life is brought to an end by the impact of death duties. But even at their present level it may be doubted whether death duties do very much to mitigate the inequality of capital ownership in general. Industrial and commercial fortunes, largely held in the form of paper titles, naturally grow in value during the lifetime of a single owner; at least they do so if they are carefully administered. Death duties are probably effective in preventing the largest estates from growing even larger, but they do not prevent the inheritance of property on a scale large enough to facilitate the building up of a great fortune within a single lifetime from what has been inherited. Statistical investigations seem to show that property was rather less unequally distributed in the nineteen-thirties than it was in 1913, but the difference is not great.[1] It is not easy to say how much of this difference was due to death duties and how much to the years of bad trade between 1930 and 1934; millionaires are very sensitive to trade depressions.

3. The mitigation of inequality in capital ownership, brought about by death duties, is in fact considerably less important than the direct mitigation of inequality in incomes, which is brought about by income taxation and social expenditure. The incomes we have so far been considering are the incomes on which taxes are paid, not the incomes which remain after taxes have been paid; but it is only the income which remains after taxes have been deducted which is *available* for the satisfaction of personal wants. The rate of taxation on high incomes is much greater than the rate of taxation on small incomes; consequently the incomes available for personal expenditure are much less unequal than the incomes which were recorded in our first table. Nor is this all. A considerable proportion of government expenditure is social expenditure, expenditure for

estate of £200,000 now pays 34 per cent.; an estate over £2 millions pays 65 per cent.

[1] H. Campion, *Public and Private Property*, pp. 108–10.

most from social expenditure are not indeed the same as those who pay most of the taxes. For example, a man who drinks and smokes pays a much larger proportion of his income in taxes than a teetotaller and non-smoker does. Most people are prepared to accept this as reasonable; what is not so easily justified is the fact that a large number of taxes[1] fall more heavily on people with large families than they do on the unmarried and childless. Large families also get a larger share of social expenditure; but it is doubtful if this outweighs the extra taxation.

4. We can also get an idea from our last table of the proportion of the national income which was used in 1937 for what might be called 'surplus consumption' by the wealthy—for the maintenance of a standard of living above that possible for other people. Let us draw a line at an income of £1,000 a year, free of taxes (corresponding to about £1,350 a year of nominal income); and let us inquire how many people had an available income above that figure. There were 110,000 people from the two highest income-groups and about half the third group—say 80,000 (the remainder of the third group had already had their incomes reduced below the £1,000 level by the taxation actually imposed). The total available income of these people was about £415 millions, and some part of that income was presumably saved.[2] It would have taken £190 millions or so to give them £1,000 a year each; thus their surplus consumption above £1,000 a year cannot have been more than £225 millions —about 5 per cent. of the National Income.[3]

If the base line of £1,000 a year seems too generous (though it is more or less the level which is often considered to be proper for the higher incomes in a wealthy socialist commu-

[1] In particular, all food taxes and also local rates, which are a tax on house-room. The extension of income tax to working-class incomes (1941) is at the moment an important force working in the other direction.

[2] It will be remembered that in calculating available incomes we have not made any deduction for death duties.

[3] The national income in 1937 differed only a little from that in 1938. If we assume that expenditure on consumers' goods was the same in the two years (which must be approximately correct), then this surplus consumption comes out at 6½ per cent. of total expenditure on consumers' goods at factor cost, 5½ per cent. at market prices.

cannot, in any case, have been any great difference between the two amounts. It is therefore hardly right to describe that expenditure as a 'transference from the rich to the poor', a description commonly used. The funds spent by the Government for the benefit of the working class were hardly more than

TABLE XI

The Distribution of Available Incomes (1937)[1]

Income class (£ *p.a.*)	*Number in class* (*thousands*)	*Total income in class* (£ *millions*)	*Taxation paid by class* (£ *millions*)	*Receipts from social expenditure* (£ *millions*)	*Available income in class* (£ *millions*)
Over 10,000	8·6	180	97	..	83
2,000–10,000	101	375	130	..	245
1,000–2,000	177	240	68	..	172
500–1,000	475	320	78	..	242
250–500	1,888	615	114	..	501
Under 250	22,300	2,330	458	520	2,392

what was paid to it by the working class. What is true, however, is that the lowest income-group had been almost entirely relieved of the necessity of making a contribution to the general expenses of government; the costs of maintaining the State, of running an organized community, were almost entirely met by the middle class and the wealthy. This was itself a great social achievement, whose magnitude will be appreciated when it is remembered that the general practice of most communities in the past has been for the State to be supported almost entirely by contributions levied mainly on the poor.

The particular members of the 'under £250' class who benefit

[1] I have made no attempt in this table to divide the 'under £250' group into A and B as before. Since A and B incomes will often be pooled in expenditure, to divide the burden of taxation between them would be a hopeless task. I have added in the 2·6 million old age pensioners.

All taxes (including rates) are taken into account in this table, excepting taxes (such as those on undistributed profits) which had been allowed for before the original table of incomes was drawn up, and also excepting death duties. Just what should be done with death duties is a controversial question, and it makes a great deal of difference to the 'available incomes' in the higher ranges. But considering that people do not usually consider that their payments of death duties come out of income, I have preferred to leave them out here.

his workmen, of the party organizer over his members, of the state official over private citizens. As inequalities go, inequality of income is a relatively harmless kind; the mere fact that it is so easily capable of being catalogued and measured means that there are ways of keeping it in check. It is important that it should be kept in check; but it is still more important for the future of human freedom that we should not open the door to other devils in its place.

(*Note to p. 181*)

Since this chapter was written, an official estimate of the distribution of incomes assessed to income-tax in 1938 (not 1937) has been given in answer to a question in Parliament (July 23, 1942). The official figures are not seriously inconsistent with ours, but it will be useful to give them for comparison. They are as follows:

Income class	*Number in class (thousands)*	*Total income in class (£ millions)*
Over £10,000 . .	8	170
£2,000–£10,000 . .	97	360
£1,000–£2,000 . .	195	270
£500–£1,000 . .	500	350
£250–£500 . .	1,750	590

nity), we can rework the calculation with a lower limit. A limit of £500 a year, free of taxes, would cut out surplus consumption, not only by the wealthy, but also by the more prosperous section of the middle class. Even so, the maximum figure for surplus consumption above that level would only rise to about £365 millions—8½ per cent. of the national income.[1]

These figures give some idea of the true magnitude of the economic problem presented by great inequalities in wealth; the share of the national income which goes to the wealthy (after they have paid their taxes) is after all not so very large.[2] If it were possible to take away the whole of the surplus, and use it to increase the net incomes of the poorer classes, the gain to those classes (spread over their vast numbers) would be quite moderate. It would be considerably smaller than the gain which did actually accrue to those classes from the increase in the real national income between 1924 and 1937.

Working-class standards of living are much more likely to be raised by increases in production (increases in total income) than by changes in distribution, which give more to the poor and less to the rich. It is true that there are some ways in which total income might be increased by more equal distribution, but there are other forces which would work in the opposite direction, and it is hard to be sure which would predominate. It is true that if the security which comes from the possession of even a small reserve of savings could be spread more widely through the population, it would be a great gain. But for the rest, the inequality of incomes is more a social problem than an economic one. Inequality of income is the form taken in our society of a more fundamental inequality—the inequality of power. Inequality of power persists in all societies; it is indeed difficult to see how society could be organized without it. It has taken many forms in the course of history—the control of the master over his slaves, of the feudal baron over his serfs, of the landlord over his tenants, of the employer over

[1] Ten and a half per cent. of total expenditure on consumers' goods at factor cost, 9 per cent. at market prices.

[2] Another thing which is made very clear by this calculation is the reason why the extra taxation needed in war-time could not possibly be raised by taxes which would fall on the wealthy alone.

Yet economic science cannot get on without its physiological branch;[1] there are indeed many books on elementary economics which deal with little else. It is only as a result of the great advances made in social accounting during the last twenty years that it has been possible to write a book like this which concentrates on the 'anatomical' side; the 'physiological' side was developed earlier, and most elementary books follow that earlier tradition.

I hope the reader will have found that our 'anatomical' method has told him the answers to a good many of the questions he wanted to ask about the economic system when he began his studies; I do not think that so many important questions could have been answered so speedily in any other way. Yet in spite of that it must be insisted that the field we have been covering is only one side of economics; to treat it as more than that would lead to serious error. A striking example of this can be taken from the last chapter. Dissecting the economic system after the event, we can show (as we did) that a certain proportion of the national income was available in a certain year for surplus consumption by the wealthy; it is easy to jump from that to the conclusion that this surplus could have been taken from the wealthy and distributed among the poorer classes, raising the incomes of the poor by so much per cent. It may well be useful to think the thing out in this way, in order to get an idea of the magnitude of the problem of inequality; but it would be quite wrong to suppose that the transfer could be made in a way which would enable its results to be calculated by simple arithmetic. Some particular device (such as a new tax) would have to be used for making the transference; and no such device can be conceived of, which would not have far-reaching effects on the structure of the whole economic system. The commodities which would be produced in the new circumstances would be different from

[1] Since economic physiology cannot be based upon statistics collected after the event, and since it cannot perform experiments, it is inevitably rather more speculative than a science ideally should be; more of it is *theory*, and less of it is *applied economics*, than one could wish. But this seems to be in the nature of the case, and cannot altogether be helped. Although statistical methods for use on this side of economics have been, and are being, devised, the results obtained by their use are rather limited.

CONCLUSION

FURTHER HORIZONS

THERE have been several occasions in this book (most frequently in the later chapters) when we have encountered questions, questions of great interest and importance, which we have been obliged to leave unanswered, or to answer in what was obviously a makeshift manner. There was a reason for this—not merely the reason that the book was growing long enough for its purpose, but a more fundamental reason. Although the reader who has mastered what has been set before him will have learned a good deal of economics, the economics he has learned will be all on one side of the subject. A question such as that which arose in our discussion of the causes of inequality (why the national income is divided between wages and profits in the proportions that it is), such a question cannot be answered along the lines we have been following. The same applies to the reasons for the differences in the earnings of different kinds of labour, and to the reasons for changes in the terms of trade. We had to be very sketchy in our discussion of these matters, although they embody economic problems of the first importance. There are branches of economics which do deal with them in detail, but they are different branches of economics from that which we have been studying.

The relation between our branch (which might be called Social Accounting) and the rest of economics can be made clear by an analogy from another science. The study of the human body is divided into two main parts—anatomy and physiology. Anatomy deals with the structure of the body, the various organs and their relations, the plan of the organism as it is discovered by dissection after death. Physiology is concerned with the working of the organism—the living body as a going concern. What we have been studying in this book is economic anatomy, the structure of the body economic, as it can be discovered by statisticians working on figures collected *after the event*. Only very casually have we learned anything about economic physiology—the way the economic system works.

consequences of economic changes. Some may be of other kinds. There are questions concerned with the organization of the economic system; we have seen that more goods and services were produced in some years than others, but could not still more have been produced in any year if things had been organized differently? Then there are questions about definitions: is it really necessary to classify things in the particular compartments we have chosen? could not the classifications be improved? (A very fundamental question of this last sort is the question whether the money measure of the national income can be justified; if a loaf of bread costs 3*d*., and a box of cough lozenges 1*s*., we have taken it that the cough lozenges represent the same 'output' as four loaves of bread.) Along some or all of these lines, the intelligent reader will want to criticize; but he has not been given much help towards criticizing. He will find that help if he pursues his studies in the Theory of Value.

the commodities which were produced in the old; the incomes earned in producing the new set of commodities would be different from the incomes which were earned in producing the old set. We cannot even be certain, until we have made a special investigation of the matter, whether any particular measure, introduced in order to mitigate the inequality of incomes, will in fact have the effect which is intended.

Many of the most important questions people want to ask about the economic system are questions of the type—*if such and such a thing were done, what would be the probable consequences?* Now hardly any of these questions can be properly answered from a knowledge of Social Accounting alone. Just as it is impossible to forecast the effect of performing an operation merely from a knowledge of the anatomy of the human body, so it is impossible to forecast the probable effects of an economic reform without having a knowledge of how the economic system works. Therefore, once the student has mastered the groundwork of Social Accounting, he must go on to the 'physiological' side of economics, whose centre is the Theory of Value. The mechanism by which the economic system works is the system of prices; the fundamental principles of price are what the Theory of Value studies.

Although the Theory of Value incorporates so important a body of knowledge, it is perhaps at first sight a less attractive study than Social Accounting is. The Theory of Value does reach important conclusions on great questions, but it has to spend a good deal of time on small and apparently trivial questions in order to get there. This is of course a common experience in science; the elementary stages of most sciences are trivial enough. One reason why I have written this book is because I think that a preliminary grasp of Social Accounting may make the elementary stages of the Theory of Value easier to bear.

I hope that the reader of this book will come to the end of it with a number of general questions in his mind—questions which were probably not there when he started, questions which have not been answered here, but which he would now like to have answered. Some of these questions may be of the type we have just been discussing—questions of the probable

sale or not; this is in fact what is usually done when estimating the national income of such a country as India. The object of any such calculation is to get the most useful figure possible; in a case where the habit of selling agricultural products is spreading, a figure which includes all such products will be more useful than one which includes only those products which are produced for sale.

It is tempting to seek for a way round the difficulty by widening our definition, including some of the things we have left out; but the trouble then is to know where we should stop. The most promising suggestion for widening is that made (but ultimately rejected for this purpose) by Professor Pigou:[1] that we should include all those kinds of work which can be brought into relation with the 'measuring-rod of money'—not merely those which *are* paid, but those which *might* be paid. Unfortunately it is impossible to interpret this wider definition in a way which would command general agreement. A man might employ a secretary to write his letters; if he writes his own letters, are we to say that the time he spends in doing so is spent in productive work? A man may employ a gardener; if he works in his own garden, how are we to separate out the work which he does to satisfy his own wants for vegetables and flowers, from the work which is an end in itself, which no one could do for him since no one else could give him the pleasure he gets from watching the growth of a shrub, raised from his own cutting and planted by his own hands? The wider definition gets us into inextricable knots; and no other wide definition has been suggested which would not do so. We are therefore driven to adopt the limited definition here used, though we must be prepared to modify it by including some particular things not produced for sale, in cases where it would be seriously misleading not to do so.

It is also interesting to observe that an issue exactly parallel to that which we have discussed in this note arises in another connexion.[2] If we decide to reckon as productive only those services of labour which are paid for, we ought to do the same with the services of capital. The durable-use consumers' goods, which are in existence at the beginning of a year, render valuable services to their users during the year; but if user and owner are one and the same person, no payment is made for these services. People derive advantages from the durable-use consumers' goods in their possession, just as they derive advantages from the work which they do to satisfy their own wants; but as we are excluding the one because no payment passes, so it would appear that we must exclude the other. On the same

[1] *Economics of Welfare*, Part I, chs. 1 and 3.

[2] See above, p. 36.

APPENDIX

NOTE A. *On the definition of production*

I HAVE kept fairly strictly in this book to the definition of *productive work* as *work done to satisfy the wants of other people through exchange*. This definition corresponds to the definition of *income* used in calculations of the British National Income, and it has the great advantage of being unambiguous. But it is not by any means wholly satisfactory. There are at least three kinds of socially useful work which are excluded from productive work on this definition: (1) domestic work, done within the family, by housewives and others; (2) direct production for use of the family, mainly of foodstuffs, on gardens, allotments, and small-holdings; (3) 'voluntary' work, done for its own sake or from a sense of duty to the community or social group to which one belongs. These kinds of work are only distinguished from the kinds which we do count as productive on the one ground that they are not paid: there is no payment in the ordinary sense, that is, though of course there are other compensations. Exactly similar work can often be found which is paid for; domestic work may be done by a paid housekeeper, the allotment-holder may sell his produce, the club may employ a paid secretary. It would therefore be possible for *production* (in our sense) to go up, merely because some work, which had previously been unpaid, was transferred to the paid class; yet the wants of the community as a whole need not be any better satisfied as a result.

Transferences of this sort do not often occur nowadays on a large scale; but when they do, we must allow for them in some way, if we are not to be led into serious error. It is a serious error, for example, in the economics of war, if we neglect the fact that by drawing women into munition making and other war services the supply of labour for necessary domestic work is diminished. Again, when rapid improvements in transport take place in a hitherto undeveloped country, farmers will change over from producing mainly for their own wants to producing mainly for sale. On our definition of *production* this would cause agricultural production to shoot up from almost nothing to a considerable height; but though the farmers would almost certainly be better off for the change, they would not be as much better off as such figures would indicate. In cases such as this last, there is a great deal to be said for using a wider definition of production, including all agricultural production, whether produced for

In the first place, what do we mean by saying that *net output per head* is a maximum? The output of society consists, not of one good, but of an immense variety of goods and services. In consequence, in order to say that net output per head is greater in one set of circumstances than in another, we have to find a means of reducing the variety of goods to a common measure. Methods of doing this are discussed in Chapter XV; but the methods discussed in that chapter are none of them perfect ways of making the reduction; they are all of them makeshifts. It is not by any means certain that a perfectly suitable method of making the reduction can possibly be found. It is thus extremely probable that a *range* of possible sizes of population would exist, each of which would have a good claim to be regarded as *the* optimum population, if a suitable method of reduction were taken. If population increases, some kinds of goods become harder to get, some become easier; we have got to decide whether the shift from the one sort to the other is advantageous or not, and on that opinions may differ. Sometimes it may be very clear that the advantage exceeds the disadvantage, or vice versa; then we need have no hesitation in saying that the country is under-populated or over-populated as the case may be. But between these extremes there is likely to be a range (conceivably quite a wide range) where the advantageousness of a change is largely a matter of opinion. Within this range it would be venturesome to claim that any particular size of population is optimum; it is far more important to notice that it is only when the actual size of population falls outside this range that the size of the population becomes an urgent economic issue.

This is one of the difficulties which has to be borne in mind; but there are others of greater importance. It is impossible to define the optimum population of an area unless something is taken for granted about the other conditions of economic welfare apart from population. These other conditions include the state of industrial technique, the amount and the character of capital equipment, and the opportunities for external trade. Changes in these other conditions may change the optimum size of population very markedly. England would be grossly over-populated to-day if her capital equipment were no greater than it was a century ago; she would be grossly over-populated to-day if her opportunities for foreign trade were no greater than they were a century ago. Improvements in industrial technique will usually tend to increase the optimum population of an area.

This being so, an optimum population, defined with reference to the conditions of technique, capital, and foreign trade *as they are at present* is a notion of extremely little practical interest. For in the

principle, we must include the services of those durable-use consumers' goods for which a rent is paid, since these are analogous to the work which is paid for.

This is the principle; but in this case we meet a difficulty just like that of agricultural production for the farmer's own use. Houses are the most important class of durable-use consumers' goods; but some houses are rented, some are owner-occupied. If we reckoned the services of the rented houses as a part of production, but not the services of the owner-occupied houses (which would be the logical thing to do), we should get into a difficulty just like that which arose over agriculture. An increased tendency for people to own their own houses would appear as a fall in the social income, but it would be absurd to regard it in that light. Since a change of that sort may well occur (and has in fact occurred in Britain during the last thirty years) it is much safer to include the services of *all* houses. The peculiarities of the British income-tax law do in fact make it easier to include the services of all houses than to sort out only those houses which are rented. This is no doubt the reason why the services of all houses are in practice always reckoned in calculations of the British national output; it is not always appreciated, however, that there are good economic reasons for including them all.

NOTE B. *On the idea of an Optimum Population*

When discussing the economics of Population in Chapter V, I have carefully avoided making any use of the idea of an Optimum Population, although that idea is widely used in modern discussions of the subject.[1] It is easy to see how the idea arises. If the population of a particular area may be too small for full efficiency of production, and if it may also be too large, then there must be some level in between at which it would be *just right*. The same thing can be put in more technical language by defining the optimum population as that level of population which would make output per head a maximum. A country will then be under-populated if its population is less than the optimum, over-populated if its population is more than the optimum.

We have seen that it is possible to give definite and important meanings to the terms under-population and over-population; but this does not suffice to show that an optimum population between the two can be precisely defined. No one has ever been able to say what the optimum population of any particular area is in fact; for this inability there are several very good reasons.

[1] See, for example, Carr-Saunders, *Population*. Cannan, *Wealth* (3rd edition) only uses the idea with careful qualifications.

on the safe side; when there is any doubt on the matter (as there usually will be) a high figure for depreciation will be chosen rather than a low one. (The systematic choice of high figures for depreciation is the easiest way of setting aside 'hidden reserves'.)

The other practically important estimate is that made for purposes of taxation. Since there is this arbitrary element in a firm's own reckoning of its own depreciation allowances, and hence of its own profits, taxes on profits cannot be assessed on what firms themselves declare their profits to be; this would give far too much opportunity for evasion. It is therefore necessary for the government to lay down rules for the determination of depreciation allowances (or, as these statutory allowances are called, wear-and-tear allowances); the profits on which taxes are paid are calculated by deducting, not the firm's own depreciation allowances, but the wear-and-tear allowances laid down by law. Now it is these profits, calculated for purposes of taxation, which are recorded in the statistics used for calculating the national income on the income method; the figures given for the British national income are therefore dependent to some extent upon the rules for the calculation of wear-and-tear allowances which have been laid down by Parliament.

Wear-and-tear allowances, drawn up for the purpose of securing fairness in taxation, do not necessarily give us a satisfactory measure for use in calculating the national income. It is probable that in practice the discrepancy is not often serious; nevertheless economists have the responsibility of trying to discover the principles on which depreciation allowances ought to be calculated for this other purpose, in order that they should be on the look-out for such discrepancies as may arise.

It is not possible in this place to go far into the economic theory of depreciation, not all of which is well agreed among economists; two points which are well established nevertheless deserve to be mentioned. One is the distinction between depreciation and capital losses. When calculating the income or output of a year we have to deduct as depreciation the capital equipment used up in the process of production; but we should not deduct any accidental destruction of capital equipment which occurred otherwise than as a consequence of production. In the year 1941 a considerable amount of capital equipment was destroyed in air raids; a loss of this sort must not be deducted before arriving at the net output of the year, if only because the figure got after deducting that loss would be less significant than the figure for output without such deduction. It would be absurd to regard 1941 as having no output at all until it had produced enough to offset the air-raid damage! But it will be noticed that if we regard

time which it would inevitably take (by any other route but that of catastrophe) to adjust the actual population to the optimum, we may be sure that the optimum itself would have shifted, and would probably have shifted to an important extent. Further, it is very probable that the optimum size of a population will depend on the age-distribution of that population; but in the process of adjusting the size of population age-distribution must change. An area could not be said to have reached a fully optimum state of population until its age-distribution was such as to keep the population optimum; but such a condition could hardly be reached from any actual population within a foreseeable future.

These difficulties are not of importance when a country is decidedly under-populated (or over-populated); for we should then be safe in maintaining that an increase (or diminution) of population would still be advantageous, even if the other conditions of production changed in any way that seemed at all probable. But a statement of this sort is not made any clearer by using the phrase 'optimum population'.

NOTE C. *On the Depreciation of Capital*

The using-up of capital equipment as the result of productive activity takes two forms: (1) the gradual wearing-out of fixed capital —this is what the business man calls depreciation; (2) the using-up of single-use producers' goods—working capital and stocks. Each of these kinds of depreciation raises awkward problems of measurement, perhaps the most awkward of all the problems connected with the national income. Here we can do no more than indicate the general nature of the difficulties.

We have already seen (p. 102 above) that the valuation of a durable-use good, at a time when there is no question of selling it, is always a very delicate matter; different values may be put upon it by different people, and by the same person for different purposes. Naturally the same trouble persists when it is a question of estimating the reduction in the value of a particular piece of equipment, which has resulted from the year's operations: different people might estimate the reduction in different ways. In practice there are two estimates for the depreciation of a firm's fixed capital which need to be carefully distinguished.

In the first place, there is the estimate made by the firm for its own purposes—for example the purpose of deciding the amount which is available for distribution in dividends. In a well-managed firm, care will usually be taken when framing this estimate to be well

the compilers of the White Paper changed their mind on the subject between 1941 and 1942, and this was the main reason why their estimate for the national income in 1938 came out more than £150 millions higher in the second White Paper than in the first. (The figure for Undistributed Profits had of course to be written up in a corresponding manner.) 1938 was a year of falling prices.

NOTE D. *On what is meant by a Favourable or Adverse Balance of Payments*

The equation of the balance of payments, as we wrote it on p. 125, states a necessary equality between two totals; the difference between these totals is necessarily nil. Thus, when a country is said to have a favourable balance of payments, it cannot mean that the right-hand side of this equation is greater than the left-hand side; for that is impossible. There is, however, a useful meaning which can be given to the expression—or rather, there are two such meanings. They are not always distinguished as carefully as they should be, but it is important to distinguish them, for they have a very different economic significance. One of them is concerned with the strength or weakness of the foreign exchange position, and is thus of *monetary* importance; the other is concerned with the contribution of external transactions to the accumulation of capital by the nation within the period.

In the first sense, a country may be said to have a favourable balance of payments (it might be better to say, a *strong* balance of payments) if the bank lendings—and other temporary lendings—which we have seen to come in as a balancing factor if the other items in the balance of payments do not balance, show a surplus in the direction of lending to foreigners; or if there is a net movement of gold into the country. If there is a surplus of bank lending to foreigners, but an export of gold, then the surplus of bank lending must be greater than the export of gold; if there is an import of gold, but a surplus of bank lending in the other direction, then the balance of payments is still *strong* if the import of gold is the larger. In the contrary case, when the balance is in the direction of gold export, or bank borrowing from foreigners, the balance of payments will be *weak*. Serious weakness in the balance of payments is important, because it creates difficulties in maintaining the value of the nation's currency in terms of foreign currencies.

The other sense, for which the terms favourable and adverse are better reserved, is concerned with the balance of payments on income account. The balance of payments on income account may be said to be favourable if the country is adding to that part of the national

such losses as *capital losses*, not included in depreciation, then it is not necessarily true to say that the capital of the community at the end of the year equals the capital at the beginning *plus* net investment. The capital at the end of the year may be reduced below this level to the extent of such capital losses.

The official rules for calculating wear-and-tear allowances make no mistake on this point; they proceed by allowing a certain percentage of the original purchase price of each piece of fixed capital equipment still in use during the year, and are thus under no temptation to include capital losses. But although it is necessary, in the interests of fairness, to go back to the original purchase price (for that is firm ground, not somebody's guess), to do this is *not* economically satisfactory. For the original purchase price of a piece of equipment is not one of the prices of this year; it belongs to an earlier year, sometimes a much earlier year; thus when prices are changing, the practice of reckoning wear-and-tear allowances on this basis introduces a new complication into the problem of expressing the national income in real terms. When prices are rising, the fact that wear-and-tear allowances are based on conditions as they were when prices were lower means that they may underestimate the real economic depreciation; the national income is therefore made a little higher than it should be. Conversely, when prices are falling, the national income may be made a little lower than it should be.

A distortion similar to this last (but not identical with it) may arise on the side of working capital. If the community possessed exactly the same quantities of all sorts of single-use producers' goods at the end of the year as it did at the beginning, then clearly we ought to say that no net investment in working capital had taken place (apart from the possibility of capital losses). But if there had been a change in prices *during* the year, the value of the working capital would be altered; the accounting methods employed in practice would probably show this as positive net investment if prices were rising, and certainly show it as negative net investment if prices were falling.[1] In a more realistic case, with higher quantities of some goods at the end of the year than at the beginning, and lower quantities of others, it becomes hardly possible to conceive of a system of accounting which would not produce some distortion of this sort. But, unlike the distortion on the side of fixed capital, this distortion on the side of working capital can be allowed for in national income calculations. It is to some extent a matter of taste whether one does allow for it;

[1] There has frequently been a misunderstanding on this point. If stocks are turned over more than once a year (as is usual), some correction needs to be introduced even in the case of rising prices.

discussing can be used. Historically, they are descended from the terms favourable and adverse balance of *trade*; a favourable balance of trade simply meant an excess of exports over imports. As we have seen, it is of little economic significance whether a country's balance of trade is favourable or adverse. I have therefore avoided using the term balance of trade in this book.

NOTE E. *On the Distribution of the British National Income (1938) between Labour and Capital*

The figures given in Chapter XIV are for the most part taken from the Budget White Paper of 1942; but there are two points on which I have had to use independent estimates. These estimates were made for me by Mr. T. Barna, of the London School of Economics; their basis is indicated in what follows.

The figure of £1,725 millions which the White Paper gives for the sum of profits and rents in 1938 sets an upper limit to the true profits of capital; but it undoubtedly contains a considerable proportion of mixed incomes, such as those of farmers, retailers, and professional men, which are partly derived from capital and partly derived from labour. In order to separate out these mixed incomes we notice that pure profits are regarded as unearned incomes for purposes of income tax, while mixed incomes (like salaries and wages) are regarded as earned incomes. There are, however, several other categories of pure profits besides the unearned incomes assessed to income tax; a full enumeration would proceed more or less as follows:

	£ *millions*
Personal unearned incomes assessed to income tax	785
Income from small property, saving certificates, &c.	85
Income of life insurance funds, &c.	90
Income of non-profit making bodies	65
Undistributed profits after taxation	285
Government profits after taxation	65
Direct taxes on the latter two classes	95
	1,470

From this total we must deduct the £220 millions of interest on national debt, which is a transfer, and so was not included in the original £1,725 millions. This leaves £1,250 millions of pure profits, excluding the mixed incomes; and accordingly £475 millions of mixed incomes.

These mixed incomes include (1) farmers' profits, assessed to income tax under schedule B—£30 millions; (2) all the earned income under schedule D—£390 millions—this consists of the incomes

capital which consists of its net foreign assets *plus* its gold stock. Thus a favourable balance of payments means that net imports of gold *plus* net savings invested abroad add up to a positive quantity. Referring to the equation of the balance of payments on income account, it will be seen that this can only happen if the total of home produce exported *plus* net income from foreign assets is greater than the value of consumption out of imports *plus* home investment out of imports (importation of gold not being included in this home investment). The amount of the favourable balance of payments is the difference between these totals; if the difference goes the other way, the balance of payments may be said to be adverse.

The existence of an adverse balance of payments means that the country is eating into that part of the national capital which consists of its gold stock *plus* its net foreign assets; but of course this does not necessarily mean that the national capital as a whole is being reduced. The lose on this part may be outweighed by a gain on the other part; that is, the adverse balance of payments may be outweighed by net investment at home. We have an example of this in the accounts for the year 1938, which are described in Chapter XIV. In that year the British balance of payments was very *weak*; the loss of gold appears to have been more than £200 millions. Most of this was due to the withdrawal of foreign funds which occurred at the time of the Munich crisis; in view of the political uncertainty, continental capitalists preferred to hold their assets in the form of obligations due to them by financial institutions in America instead of in England. Thus the loss of gold was offset by a diminution in liabilities to foreigners to a considerable extent; in so far as it was offset in this way no net loss of national capital was involved. The only part of the export of gold which did involve a loss of national capital was the £55 millions, sold off by the government to pay for its armaments expenditure. This was the adverse balance of payments on income account. The things acquired with this expenditure are not reckoned into the national capital; nevertheless the national capital was higher at the end of the year than at the beginning, not lower. The private investment at home (about £400 millions) more than offset the adverse balance of payments. The national capital increased during the year 1938, but its make-up changed. Real equipment at home increased considerably; net foreign assets increased (because of the reduction in foreign liabilities); the gold stock was considerably reduced. Changes in the gold stock are still very important; but the gold stock is necessarily a very small part of the national capital.

These are the two useful senses in which the terms we have been

taxes, it is not so clear that the proportion of expenditure on consumers' goods which goes in indirect taxes is so much larger for the smaller incomes. There are some important taxes, such as those on motoring, which pull the other way. We have therefore not allowed very much difference in the proportion of expenditure taken in indirect taxation between labour and capital incomes. But the whole matter is inevitably very arbitrary; the reader is, however, invited to observe that even a substantial correction to this figure (if it could be shown to be necessary) would make very little difference to the general result of our calculation.

NOTE F. *On the Place of Indirect Taxes in the National Income*

On two or three occasions, in the later chapters of this book, we have been obliged to skirt round an awkward and still somewhat controversial question about indirect taxes. First of all, we saw on p. 148 that if the national income, as usually measured, is to come out equal in money value to the real goods and services on which it is spent, those goods and services must be valued, not at the prices actually paid for them in the market, but at *factor cost*—that is at prices from which any indirect taxes charged on the respective commodities have been deducted. This is a tiresome complication, and it proves very inconvenient when (as in Chapter XVI) we desire to use the national income in real terms as a measure of economic progress. The index-numbers of prices which are available to us are ordinarily index-numbers of market prices, not of factor costs;[1] thus before we can use an index-number of prices to convert the national income into real terms, we must add the revenue from indirect taxes on to the national income as previously measured, so as to get a figure for the *market value* of the goods and services contained in the national income.

Now it is natural to ask: would it not be better to face this difficulty from the start, and to *define* the money value of the national income as equal to the market value of the goods and services contained in it—thus as equal to the national income (as previously measured) *plus* the indirect taxes? This is in fact what was done by Mr. Colin Clark (supported by the high authority of Professor Pigou) in most of his earlier calculations. It is a tempting solution, but (at least in the view of the present writer) it has to be rejected. It is only for this particular purpose of getting an index of economic progress (strictly speaking, of comparing the level of economic welfare reached in different circumstances) that we have to make this special addition

[1] This is brought home when we notice that a rise in the tax on sugar (say) will ordinarily cause a rise in the cost-of-living index.

of small firms, small manufacturers, builders and retailers, and also incomes of professional men; (3) the incomes of workers on their own account, which were included as a separate item in the White Paper of 1941. These last amounted to £55 millions.

In the light of earlier investigations by Stamp and Bowley,[1] the following division seems to be reasonable:

(£ millions)

	Total	*'Labour'*	*'Capital'*
Farming profits	30	17	13
Manufacturing, &c.	100	70	30
Retail trade	160	130	30
Professions	50	47	3
Other profits	80	60	20
Workers on own account	55	51	4
	475	375	100

It was on this basis that we suggested that the true share of the profits of capital in the earning of the national income was approximately £1,250 millions *plus* £100 millions = £1,350 millions.

The other figure used in Chapter XIV which requires justification is that for the division of the burden of taxation between labour incomes and capital incomes. There are, in the first place, certain taxes which fall wholly upon capital incomes—death duties (£90 millions), N.D.C. contribution (£25 millions), income tax on non-personal incomes in the wider sense (£95 millions). Next there can be no doubt that the larger part of personal income tax and surtax came out of capital incomes. The total liability to these taxes in 1938 came to £315 millions, and detailed examination suggests that £195 millions of this came out of capital incomes. Thus we reach the figure of about £405 millions for direct taxes on capital incomes.

The division of the revenue from indirect taxes (less subsidies) paid out of consumers' expenditure is much more difficult. We put the total of these taxes (including local rates) at £585 millions. In the process of estimating the division of the burden of indirect taxation among various income-groups (needed in Chapter XVII), we get some light upon the division between capital and labour incomes. Incomes from capital are normally larger than incomes from labour, and it is well known that indirect taxes are 'regressive'—they take a larger proportion of small incomes than of large incomes. However, in view of the larger share of the large incomes which is paid in direct

[1] Especially Stamp, *The National Capital*, pp. 17–24; Bowley and Stamp, *The National Income*, 1924, p. 51.

that means anything are far greater. The circumstances existing at the same time in two different countries may easily differ far more drastically than those which are likely to exist in the same country in successive years; for the purposes of such comparisons, even France in 1941 was more like France in 1938 than England is like the United States. These great differences in national circumstances make it necessary to pay particular attention, when making international comparisons, to all those defects of the national income as a measure of economic welfare which we listed on p. 164. National habits about the sorts of useful work which are paid for differ widely; the amount of effort needed for similar sorts of work varies with climate and national temperament; the proportion of the national income used for defence varies greatly within a nation as political circumstances change, but it varies between one nation and another for simple reasons of geography. Then the comparison of prices between different nations is a particularly intricate matter. It often happens that there are wide differences between the sorts of commodities which different peoples principally consume; this means that the basket of commodities consumed by a representative (say) Italian will nearly always cost more in England than it would in Italy, but at the same time the basket of commodities consumed by an Englishman would cost more in Italy than it would in England. Are we then to say that prices are higher in Italy than in England, or vice versa? We can probably arrive at a moderately satisfactory answer by some device for splitting the difference; the result thus reached may have some meaning, but we should be unwise to place more than a limited amount of confidence in it.

Even if all these difficulties can be overcome—and with care (which is not always taken) they can be overcome more or less—there is still the fundamental difficulty that people who live in favourable geographical circumstances acquire freely all sorts of things which others have to earn by the sweat of the brow. Those who live in cold climates need more fuel, more clothing, and probably even more food, than those whose allowance of free sunshine is more generous. This is not at all to deny that there are poor nations and rich nations, just as there are poor and rich people within a nation. Their existence is obvious; international inequalities create social problems as grave, or graver, than the inequalities of class. The warning is concerned with a limitation of economics; what economics has to say about the comparison between the economic welfare attained by the same person (or similar persons) in different economic circumstances is almost illimitable; but comparisons between people who differ in other important respects are a much more slippery matter.

of the indirect taxes. For this particular purpose, it is essential to have the goods and services valued at market prices—not only because of the nature of our price index-numbers, but also for a more subtle reason. We seek to compare the position of a representative consumer in one situation with his position in another situation, and the choices before him in each situation are indicated by the actual prices paid, not by the factor costs of the commodities purchased.

For all other purposes, the national income at factor cost is the more important magnitude. For example, if we wish to get an idea of the division of the national income between capital and labour (as we did in Chapter XIV) or between rich and poor (as we did in Chapter XVII), it is the proportion of the nation's resources which is devoted to satisfying the wants of each class that is what matters—and this proportion is shown by the measurement in terms of factor cost. A simple example will make this clear. Suppose that it were to be the case that rich people spent all their surplus incomes on whisky. Their total expenditure might be very large; but if they were to be deprived of the means of making this expenditure only a very limited amount of resources would be set free to satisfy the wants of more abstemious people. The principal result would be a considerable loss of revenue to the government from the duty on spirits; that loss would have to be made up before anything was available to be used for other purposes.

This argument applies, not only to questions of the redistribution of income, but to all other uses of the national income accounts, excepting that particular use for the purpose of comparing economic welfare in different circumstances, with which we were concerned in Chapter XVI—and with which, it is fair to say, Professor Pigou and Mr. Clark were also mainly concerned. It therefore seems that much the best solution is to use the definition in terms of factor cost as the basic definition, but to modify it by adding in the indirect taxes when we are concerned with the particular problem of comparing economic welfare.

More sophisticated arguments in favour of the same course of action are set out (though with different emphasis) in an article by the present writer, 'The Valuation of the Social Income' (*Economica*, 1940).

NOTE G. *On Comparisons between the Real National Incomes of Different Countries*

In principle, the same methods as those used in Chapter XVI, for comparing the economic welfare of the same country in two different years, may be used for comparing the economic welfare of two different countries. But the difficulties in the way of getting a result

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